REPAIR MANUAL
&
PARTS LIST

FOR

FUJICA Single-8 ZC1000

FUJI FILM

FUJI PHOTO FILM CO., LTD.
26-30, Nishiazabu 2-Chome, Minato-ku, Tokyo 106, Japan

BODY ZC1000

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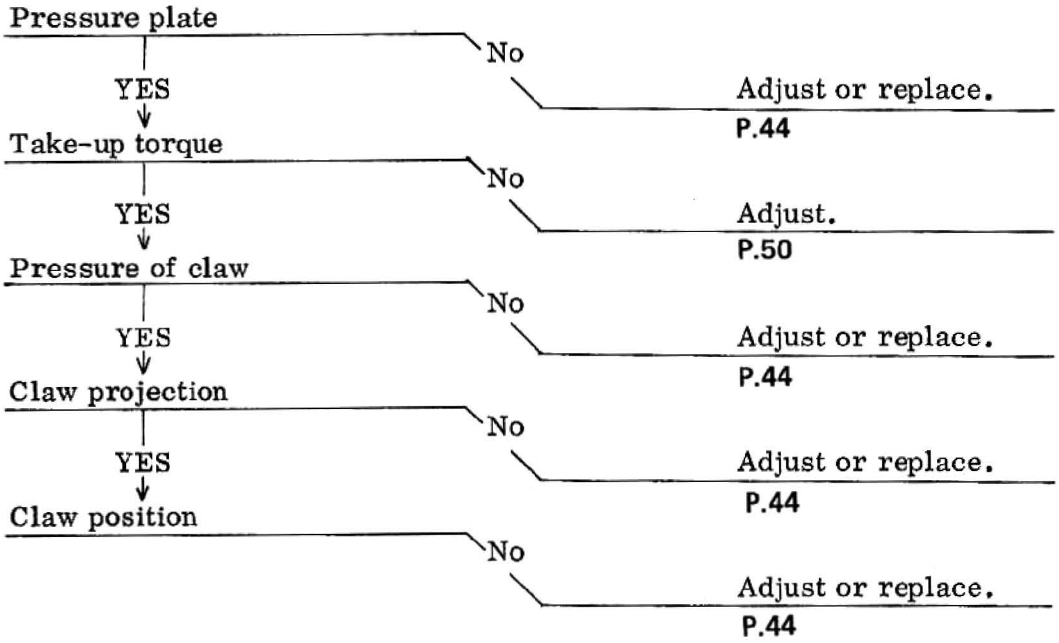
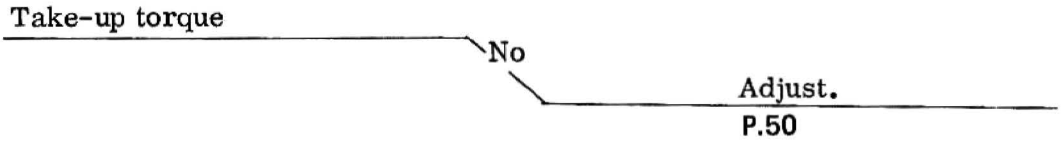
I TROUBLESHOOTING

1. Film is not advanced

1.1 Duplicate exposure (Improper advance of film)



1.2 Film is jammed



2. Motor

2.1 Motor does not work

Batteries (6V and 12V) — No — Replace.
YES ↓
Switch — No — Replace. P.34
YES ↓
Shutter release button switch — No — Repair or replace. P.34
YES ↓
F-circuit — No — Replace. P.34 P.36
YES ↓
Relay — No — Replace. P.34 P.38
YES ↓
E-circuit — No — Replace. P.34 P.38
YES ↓
Motor — No — Replace. P.34 P.40 P.42

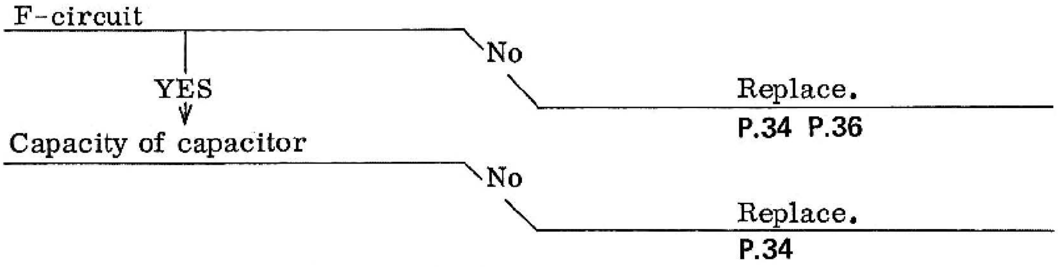
2.2 Motor cannot be turned reversely

Switch — No — Replace. P.34

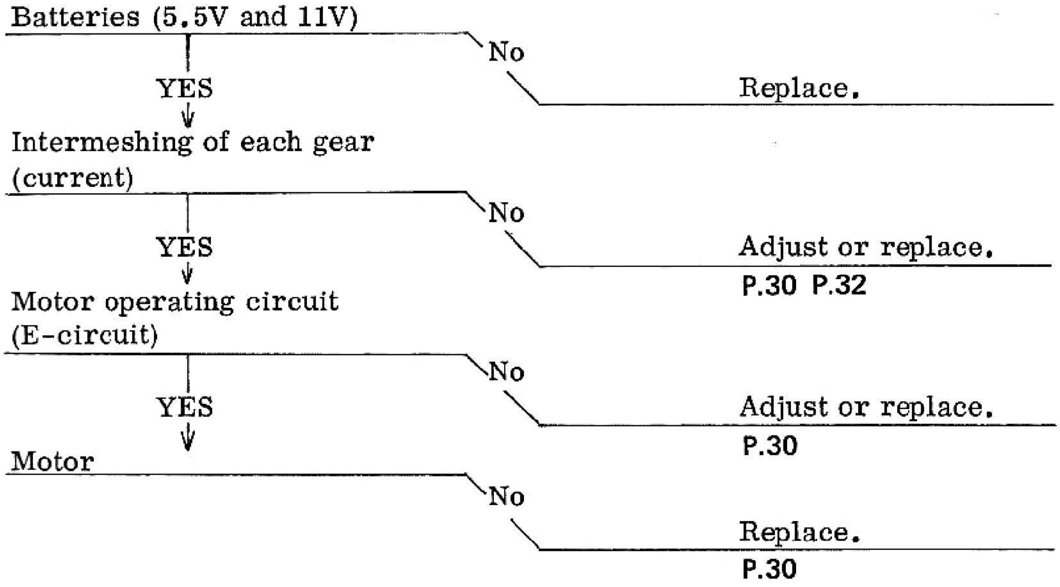
2.3 Motor does not stop (Switch is not turned off)

Shutter release button switch — No — Repair or replace. P.34
YES ↓
Relay — No — Replace. P.34 P.38
YES ↓
Rotary (synchro) switch — No — Repair or replace. P.30
YES ↓
Solenoid — No — Replace. P.34 P.42

2.4 Film is not advanced one frame per second correctly



2.5 Correct filming speed cannot be obtained



3. Footage counter

3.1 Does not advance.

Repair or replace.
P.26

3.2 Does not return

Repair or replace.
P.26

4. Digital frame counter

Does not operate.

Repair or replace.
P.26

5. Shutter release button

Does not return.

Repair or replace.
P.46

6. Focusing

Viewfinder eyepiece
(Adjustment of visibility)

No — Adjust or replace.

YES ↓

Flangeback

No — Adjust.
P.46

YES ↓

Pressure plate

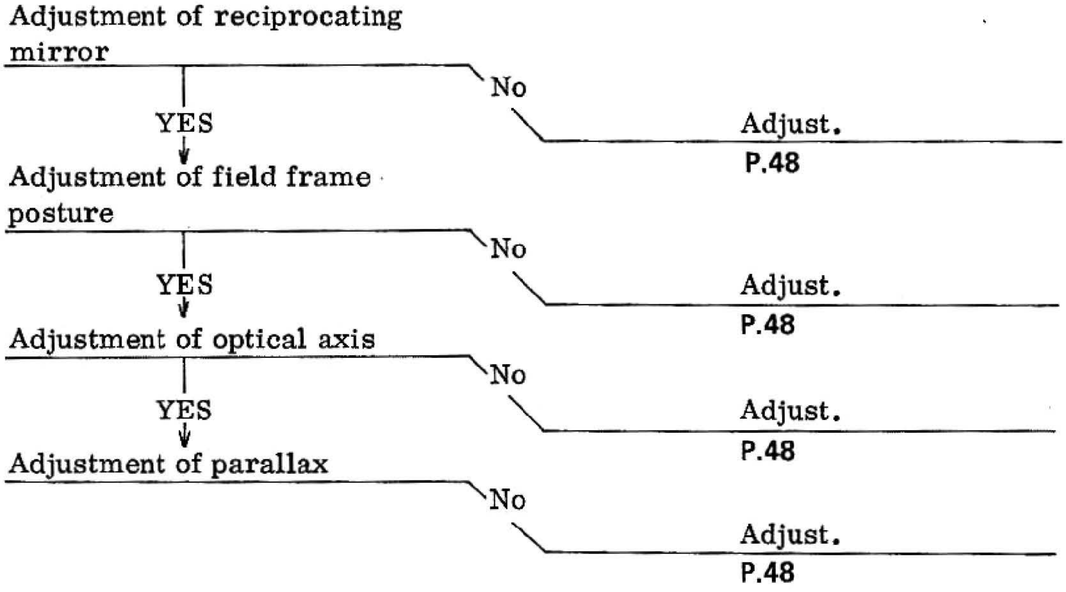
No — Adjust or replace.
P.44

7. Synchronization of reciprocating mirror and sector

Not synchronized.

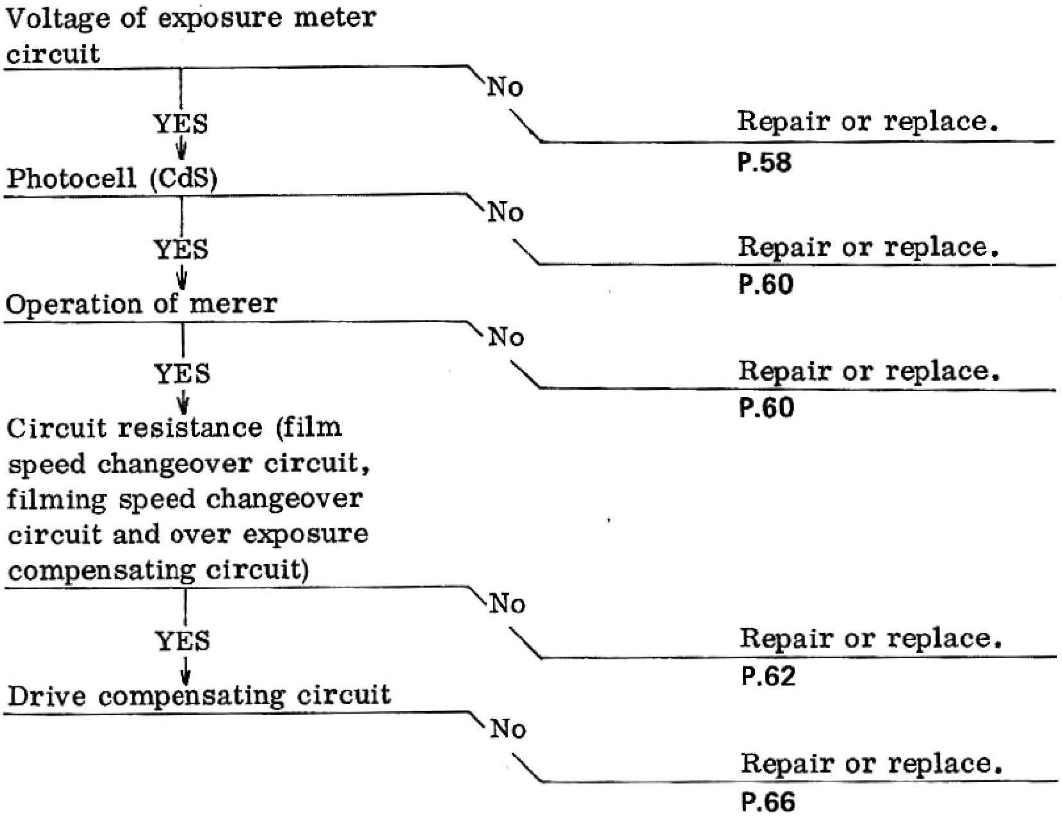
Repair.
P.30

8. Optical system

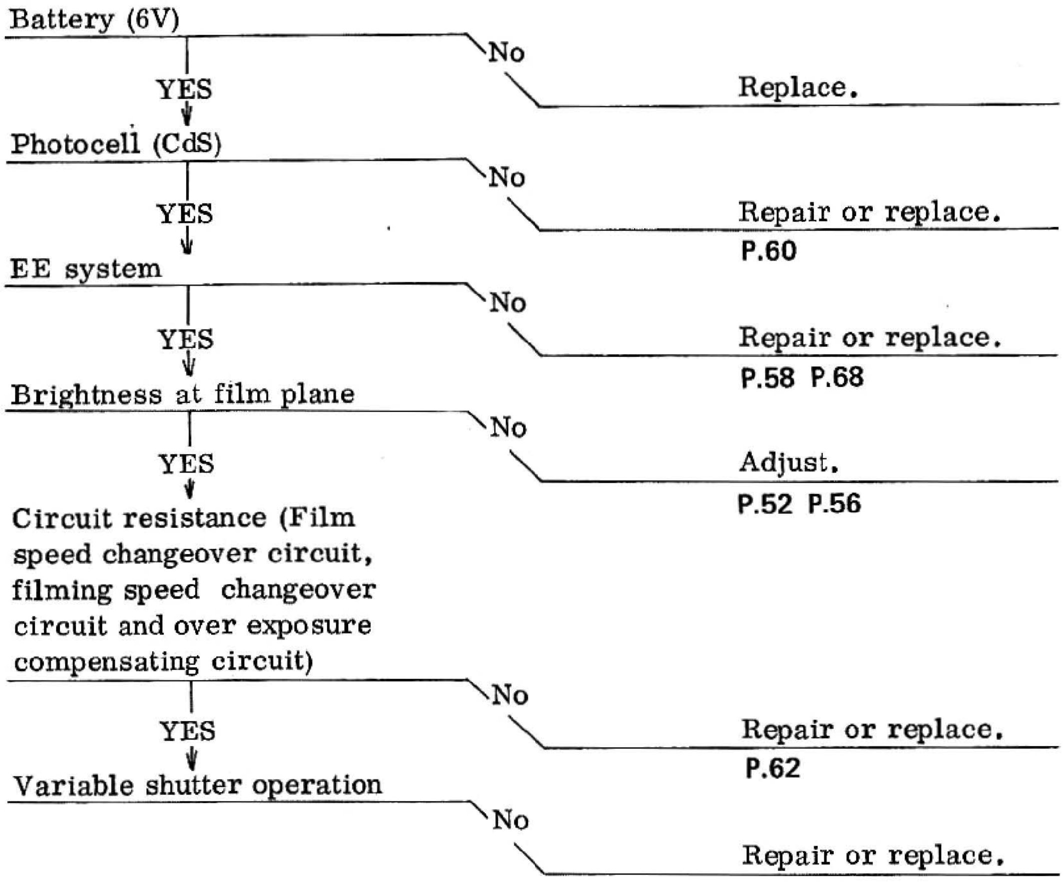

Adjustment of reciprocating mirror
No
YES
Adjust.
P.48
Adjustment of field frame posture
No
YES
Adjust.
P.48
Adjustment of optical axis
No
YES
Adjust.
P.48
Adjustment of parallax
No
Adjust.
P.48

9. Exposure meter

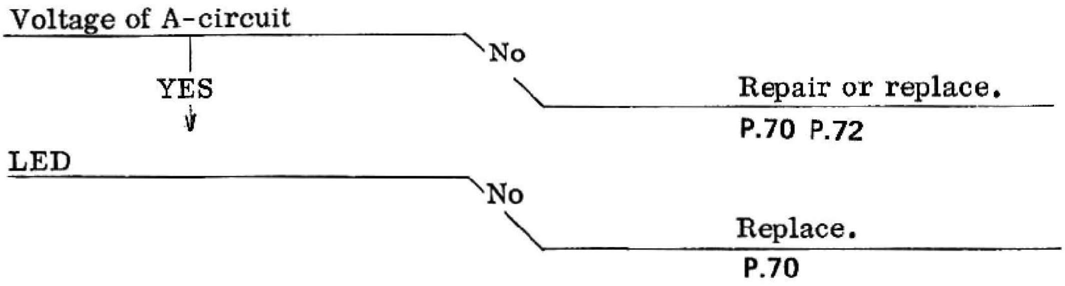
9.1 Exposure meter does not work correctly.


Voltage of exposure meter circuit
No
YES
Repair or replace.
P.58
Photocell (CdS)
No
YES
Repair or replace.
P.60
Operation of merer
No
YES
Repair or replace.
P.60
Circuit resistance (film speed changeover circuit, filming speed changeover circuit and over exposure compensating circuit)
No
YES
Repair or replace.
P.62
Drive compensating circuit
No
Repair or replace.
P.66

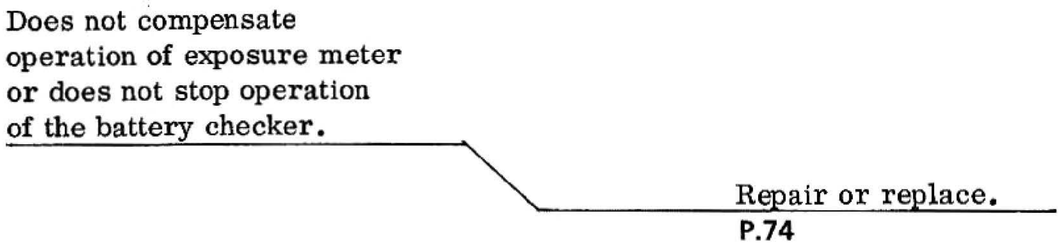
9.2 Incorrect exposure



9.3 Battery checker/warning signal



9.4 Drive compensating circuit


Does not compensate operation of exposure meter or does not stop operation of the battery checker.
Repair or replace.
P.74

II DISASSEMBLY

1. Front cover

1.1 Remove name plate (1-38) carefully so that the name plate is not bent after applying ketone to the plate.

1.2 Remove two screws (2-32) and screw (2-33). The front cover (2-31) can then be removed.

2. Lever Assembly

2.1 Loosen two screws (1-44), and remove window glass (1-45) and dial plate (1-46) after removing window frame (1-43).

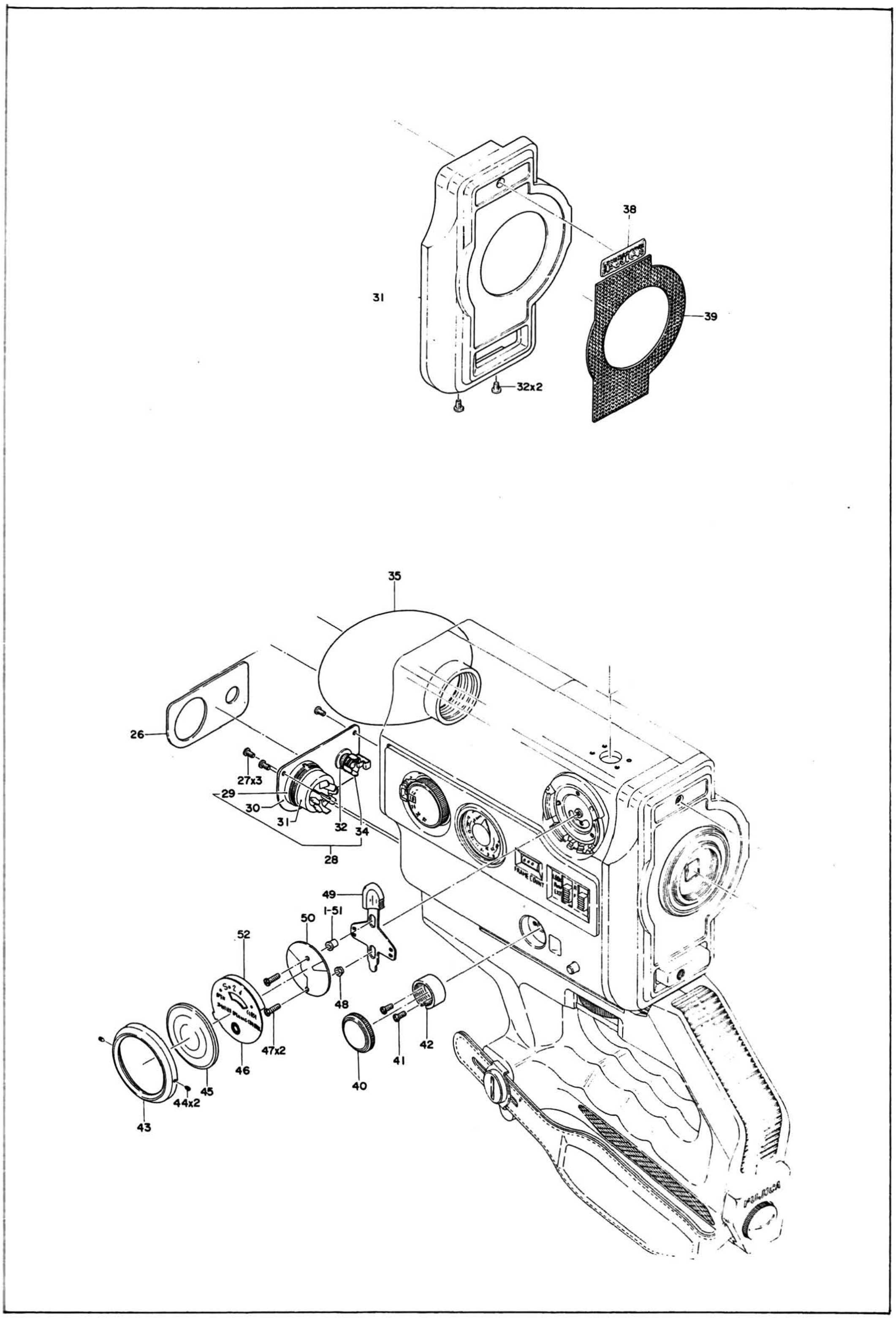
2.2 Remove two screws (1-47), and remove disc (1-50), bushing (1-48) and bushing (1-51). The lever assembly (1-49) can then be removed.

3. Connector assembly

3.1 Remove leather (1-26).

3.2 Remove three screws (1-27). The connector (1-28) can then be removed.

Fig. 1


32x2
27x3
1-51
47x2
44x2

4. Side cover assembly

4.1 Remove the connector assembly as described in II-3 above.

4.2 Remove two screws (2-39). The side cover assembly (3-38) can then be removed.

5. Plate

Remove three screws (2-37). The plate (2-36) can then be removed.

6. Body case assembly

6.1 Remove front cover, lever assembly, connector assembly, side cover assembly and plate as described in II-1 through 5 above.

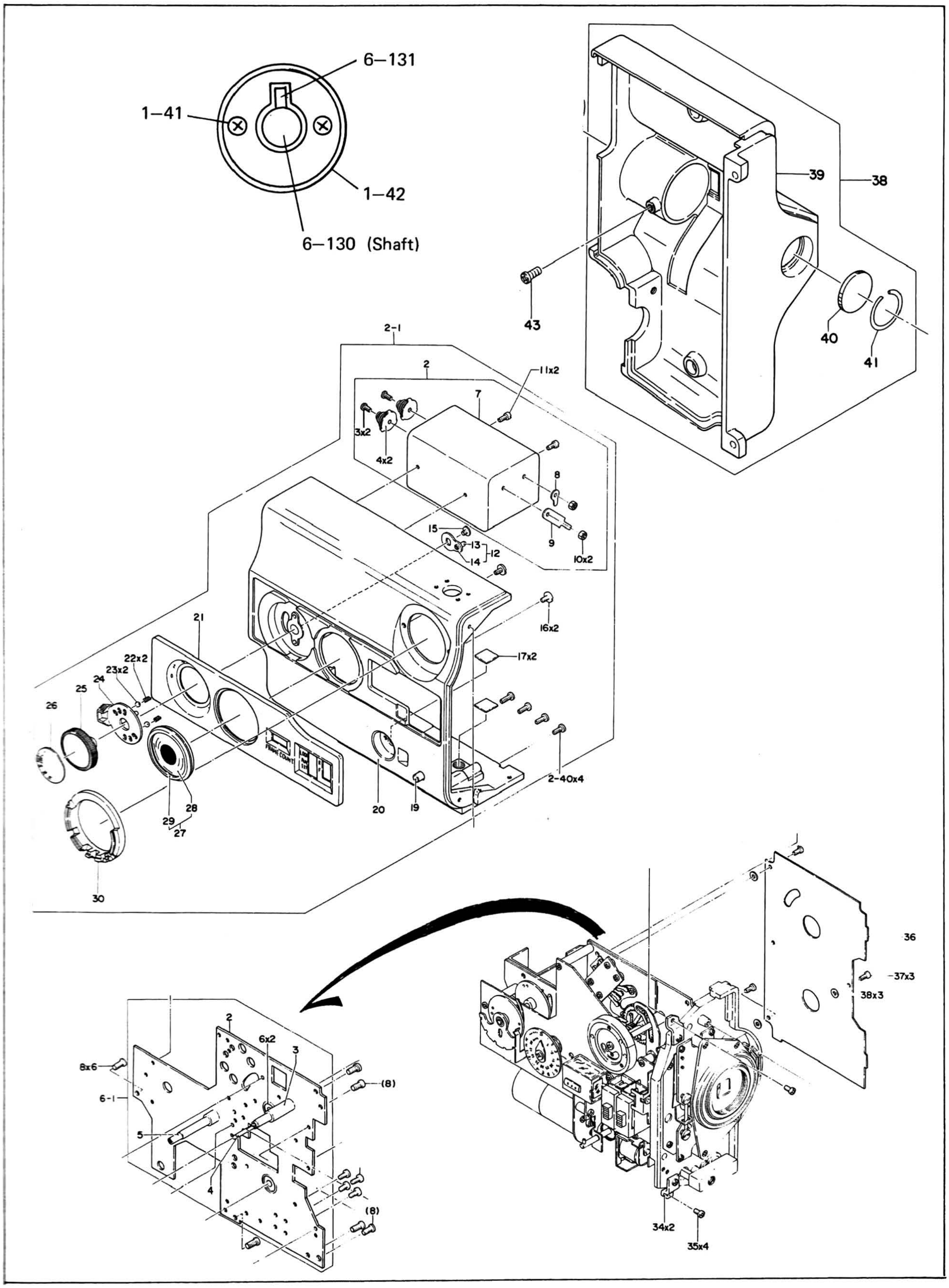
6.2 Remove four screws (2-35) and remove two auxiliary plates (2-34).

6.3 Unsolder and disconnect red lead wire (8-1) and black lead wire (8-2) from outer battery case (2-7).

6.4 Remove four screws (6-8). The body case assembly (2-1) can then be removed.

NOTE: When removing the main body, match the pin (6-131) on the shaft (6-130) with the groove on the synchro-coupler (1-42).

Fig. 2


6–131
1–41
1–42
6–130 (Shaft)
39
38
43
40
41
2-1
2
11x2
7
3x2
4x2
8
15
13
12
14
9
10x2
16x2
17x2
21
22x2
23x2
24
25
26
FRAME COUNT
2-40x4
20
19
28
29
27
30
36
37x3
38x3
34x2
35x4
2
6x2
3
8x6
(8)
6-1
5
4
(8)

7. Upper printed circuit board assembly

7.1 Remove the body case assembly (2-1) as described in II-6 above.

7.2 Loosen two screws (5-24), and remove click plate assembly (5-21) and rotary plate assembly (5-19).

7.3 Remove screw (6-155), and remove pointer (6-154).

7.4 Loosen screw (6-149) and remove dial plate assembly (6-145). (Be careful not to expand the zero resetting spring.)

7.5 Remove screw (6-41) and plate (6-40), and remove rotary shaft assembly (6-30).

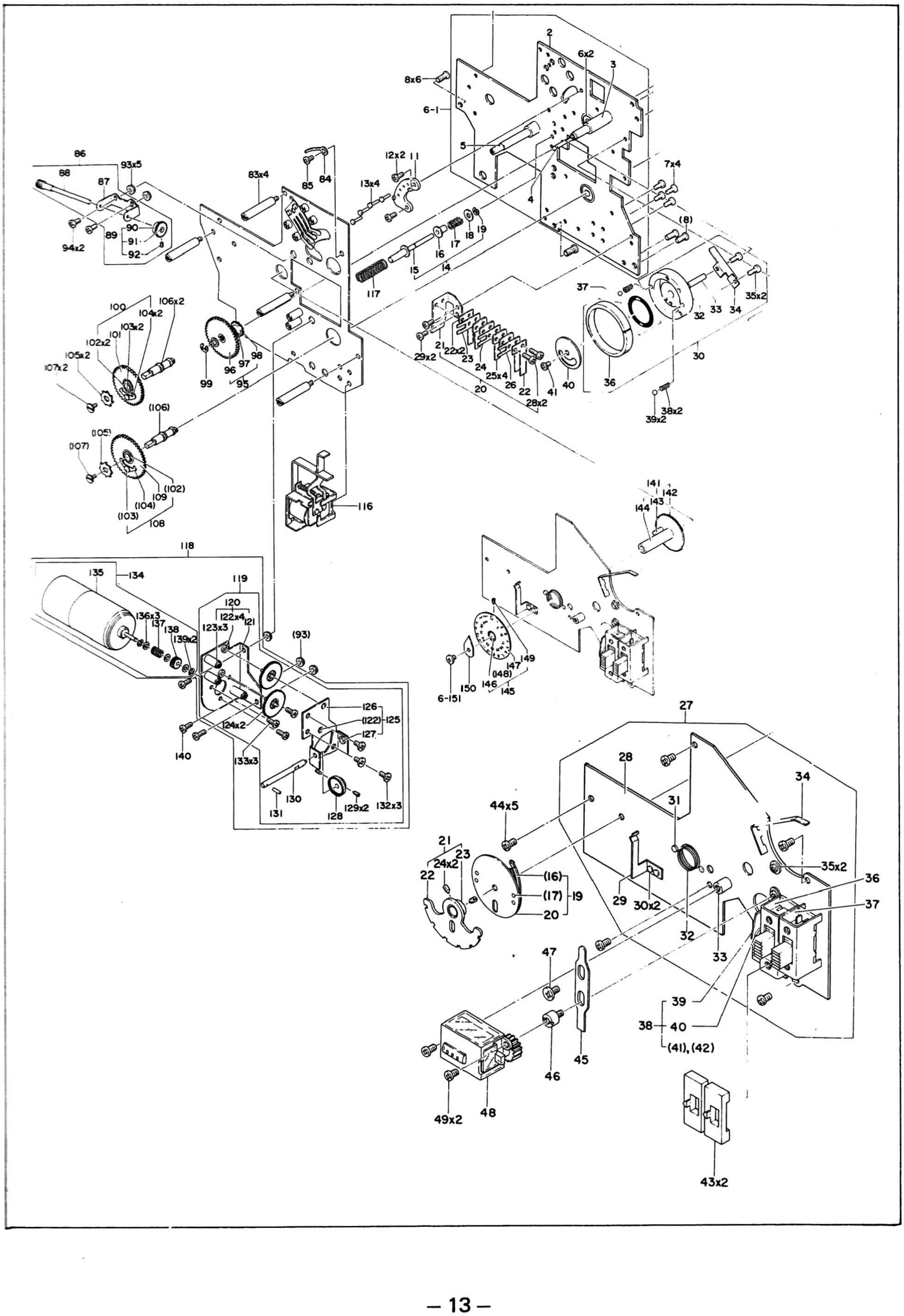
7.6 Unsolder and disconnect various lead wires from the upper printed circuit board assembly (5-27).

NOTE: When connecting or disconnecting the lead wires, refer to the attached wiring diagram.

7.7 Remove five screws (5-44), and remove the upper printed circuit board assembly (5-27).

NOTE: When removing the upper printed circuit board assembly, remove spring (6-117), zero-reset bar assembly (6-14) and gear assembly (6-141) together with the upper printed circuit board assembly.

Fig. 3


6x2
8x6
6-1
7x4
(8)
12x2
13x4
83x4
93x5
94x2
35x2
38x2
39x2
22x2
25x4
28x2
29x2
106x2
104x2
103x2
102x2
105x2
107x2
(106)
(105)
(107)
(102)
(104)
(103)
122x4
123x3
136x3
139x2
(93)
(122)
124x2
133x3
129x2
132x3
(148)
6-151
44x5
35x2
24x2
(16)
(17)
30x2
(41), (42)
49x2
43x2

8. Motor gear train assembly

8.1 Remove the upper printed circuit board assembly (5-27) as described in II-7 above.

8.2 Remove three screws (6-140). The motor gear train assembly (6-118) can then be removed.

NOTE: Be careful not to lose three collars (6-93)

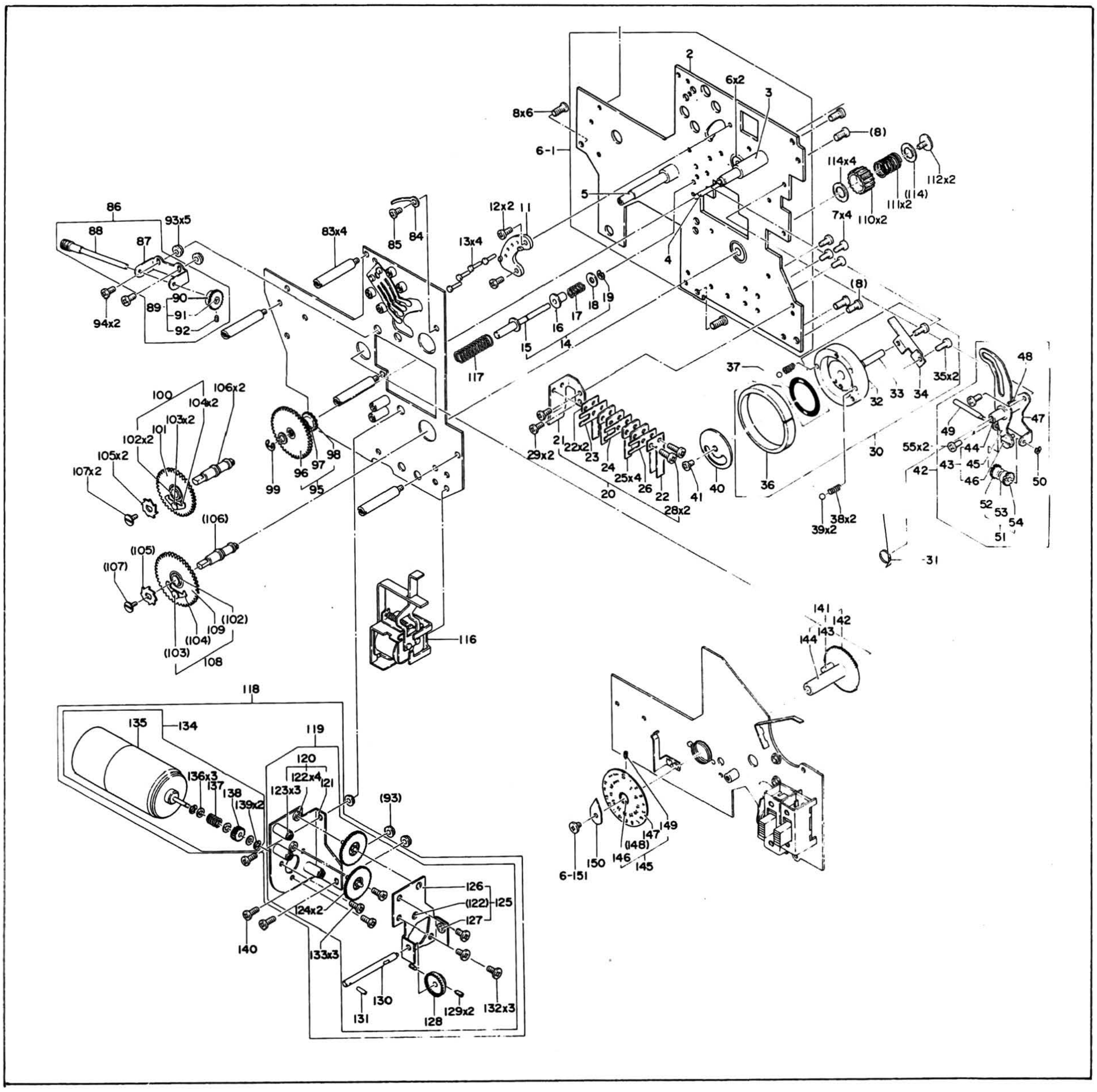
9. Solenoid assembly

9.1 Remove the upper printed circuit board assembly (5-27) as described in II-7 above.

9.2 Unsolder and disconnect lead wires from solenoid assembly (6-116).

9.3 Remove four screws (6-7). The solenoid assembly (6-116) can then be removed.

Fig. 4


6x2
8x6
6-1
(8)
114x4
112x2
(114)
11x2
110x2
7x4
(8)
93x5
94x2
83x4
12x2
13x4
35x2
55x2
22x2
25x4
28x2
29x2
38x2
39x2
106x2
104x2
103x2
102x2
105x2
107x2
(106)
(105)
(107)
(102)
(104)
(103)
122x4
123x3
136x3
139x2
(93)
(122)
124x2
133x3
129x2
132x3
(148)
6-151

10. Cam assembly

10.1 Remove the upper printed circuit board assembly (5-27) as described in II-7 above.

10.2 Remove two screws (6-55). The cam assembly (6-42) can then be removed.

NOTE: When removing the cam assembly, be careful not to lose spring (6-31).

11. Frame assembly

11.1 Remove the side cover assembly (3-38) as described in II-4 above.

11.2 Unsolder and disconnect lead wires from printed circuit board (6-81), and remove two screws (6-82). The frame assembly (6-59) can then be removed.

NOTE: When connecting or disconnecting the lead wires, refer to the attached wiring diagram.

12. Meter

12.1 Remove the frame assembly (6-59) as described in II-11 above.

12.2 Unsolder and disconnect red and black lead wires from the meter (6-151), and remove two screws (6-153). The meter (6-151) can then be removed.

13. Lens mount assembly

13.1 Remove the front cover (2-31) as described in II-1 above.

13.2 Unsolder and disconnect lead wire from the lens mount assembly, and remove four screws (4-148). The lens mount assembly (4-142) can then be removed.

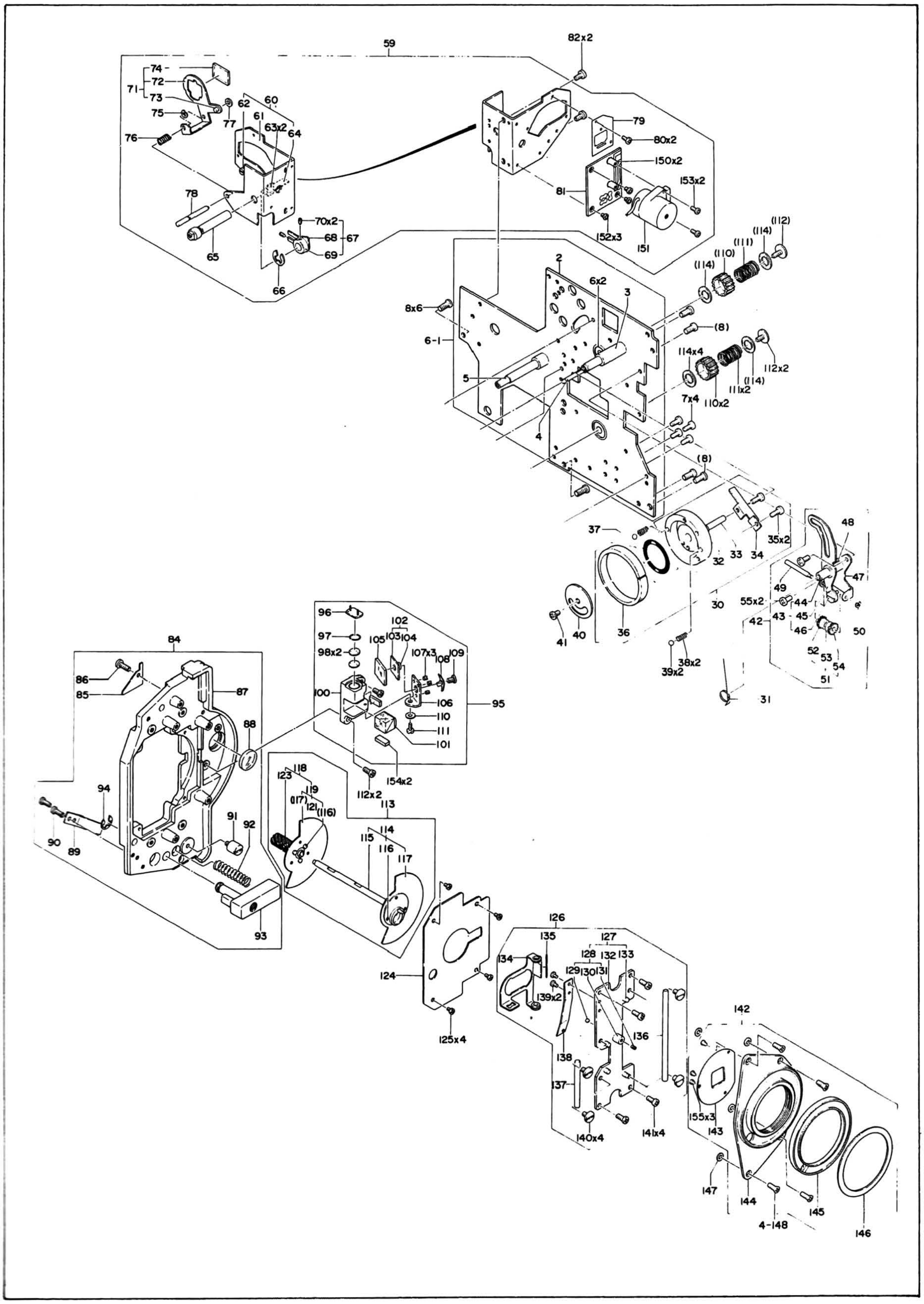
NOTE: Be careful not lose the washers (4-147) (for adjustment of flangeback) used in the lower portion of the lens mount assembly.

14. Reciprocating mirror assembly

14.1 Remove the front cover (2-31) and lens mount assembly (4-142) as respectively described in II-1 and II-13 above.

14.2 Remove four screws (4-141). The reciprocating mirror assembly (4-126) can then be removed.

Fig. 5


82x2
63x2
80x2
150x2
153x2
70x2
152x3
(112)
(114)
(111)
(110)
(114)
6x2
8x6
(8)
6-1
114x4
112x2
(114)
111x2
7x4
110x2
(8)
35x2
55x2
38x2
39x2
98x2
107x3
154x2
112x2
(117)
(116)
139x2
125x4
155x3
140x4
141x4
4-148

15. Front frame assembly

15.1 Remove the body case assembly, upper printed circuit board assembly, motor gear train assembly, solenoid assembly, cam assembly, lens mount assembly, and reciprocating mirror assembly as described in II-6, 7, 8, 9, 10, 13 and 14 above.

15.2 Remove four screws (4-125), and remove light shielding plate (4-124).

15.3 Remove two screws (6-94), and remove shaft holder assembly (6-86).

NOTE: Be careful not to lose two collars (6-93) used in the bottom of the shaft holder.

15.4 Remove E-clip (6-99), and remove worm gear assembly (6-95). (Be careful not to lose the washer.)

15.5 Loosen two screws (4-71), and make worm gear assembly (4-72) free from the shaft.

15.6 Remove two screws (4-149), and remove shaft holder assembly (4-78) from the base plate.

15.7 Loosen screw (4-71), and make bushing assembly (4-81) free from the shaft.

15.8 Unsolder and disconnect lead wires from photocell (4-96), and remove two screws (6-8). The front frame assembly (4-84) can then be removed.

NOTE: Be careful not to lose the release bar used in the shutter release button (4-93). Moreover, when reassembling, do not forget to install the release bar.

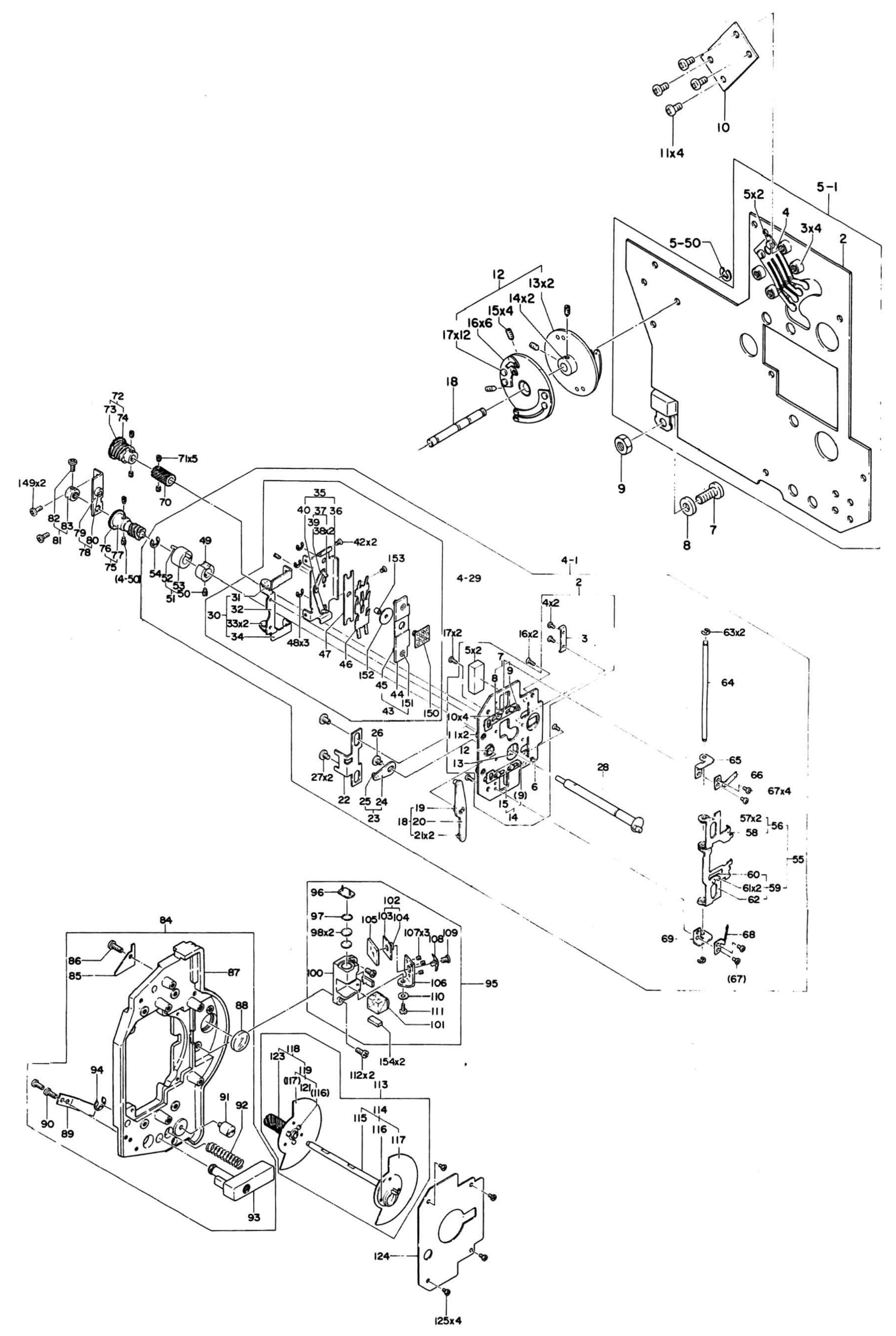
15.9 Remove the bushing assembly (4-81), shaft holder assembly (4-78), and worm gear assembly (4-72).

16. Film gate assembly

16.1 Remove the front frame assembly (4-84).

16.2 Remove two screws (4-16) and two screws (4-17). The film gate assembly can then be removed.

Fig. 6


11x4
5-1
5x2
3x4
5-50
13x2
14x2
15x4
16x6
17x12
71x5
149x2
(4-50)
38x2
42x2
4-29
4-1
33x2
48x3
4x2
16x2
17x2
5x2
10x4
11x2
(9)
27x2
21x2
63x2
67x4
57x2
61x2
(67)
98x2
107x3
154x2
112x2
(17)
(116)
125x4

17. Film chamber door assembly

Remove four screws (2-40). The film chamber door assembly (3-1) can then be removed from the body case assembly.

18. Base plate assembly

Remove four screws (3-37). The base plate assembly (3-19) can then be removed from the film chamber door.

19. Viewfinder assembly

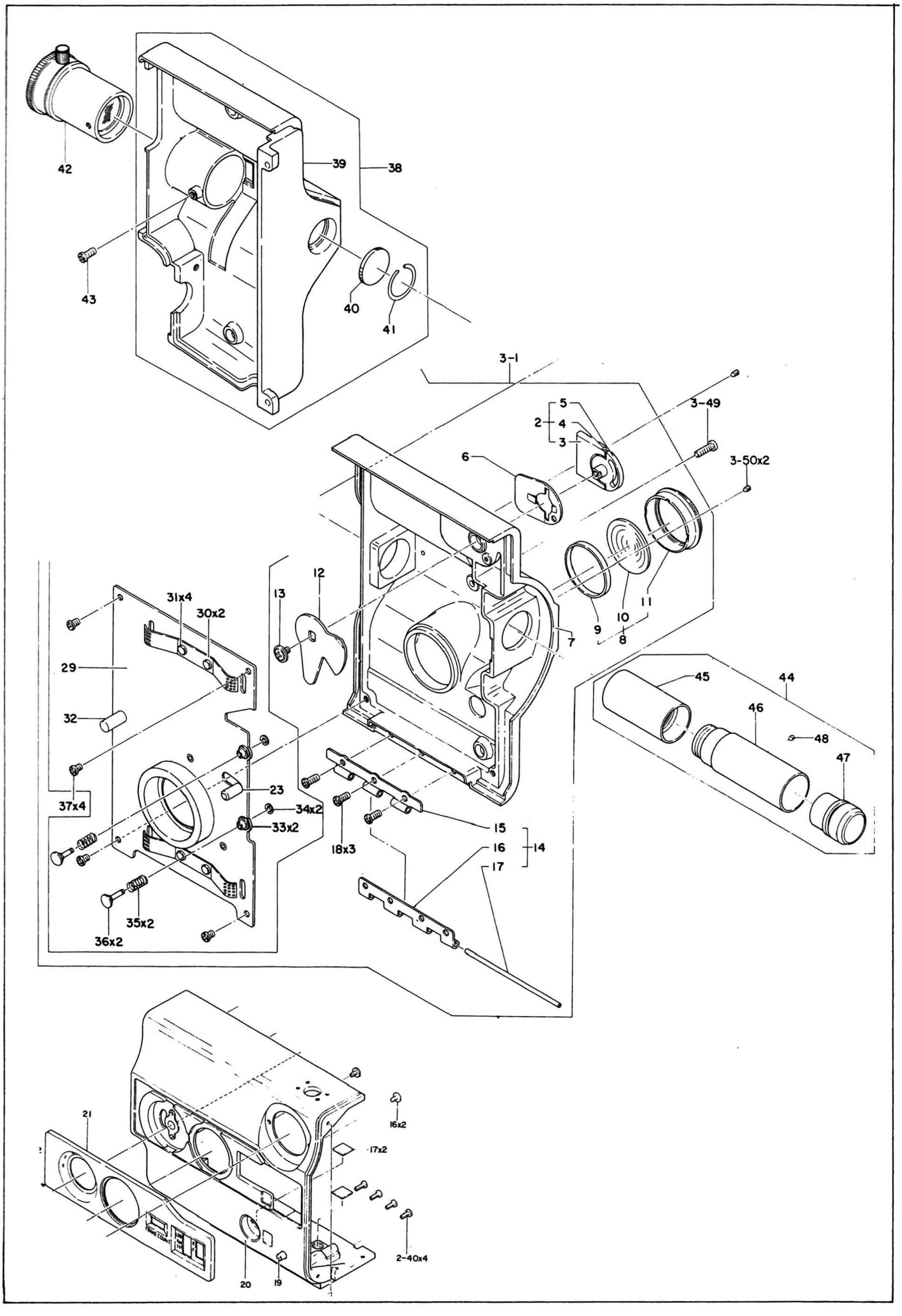
19.1 Loosen two screws (3-50).

19.2 Remove screw (3-49). The viewfinder assembly (3-44) can then be removed from the film chamber door.

20. Eyepiece assembly

Remove screw (3-43). The eyepiece assembly (3-42) can then be removed from the side cover assembly.

Fig. 7


3-1
3-49
3-50x2
31x4
30x2
34x2
33x2
37x4
18x3
35x2
36x2
16x2
17x2
2-40x4

Ⅲ REPAIR AND ADJUSTMENT

1. Body case assembly

1.1 Lever assembly (1-49) and cam assembly (6-42)

A. When the lever assembly (1-49) does not move smoothly or lightly, replace the cam assembly (6-42) or sector assembly (4-113) with a new one.

B. When the lever assembly (1-49) does not click effectively or when it drags, clean the click holes, two steel balls (6-39) and two springs (6-38), and apply grease to them.
When the click is too weak, replace the steel balls (6-39) and springs (6-38) with new ones.

C. When the lever assembly (1-49) is moved and variable shutter does not operate correctly, check the gear (6-51) of the cam assembly (6-42) and helical gears (4-70 and 4-123) of the sector assembly (4-113) for their intermeshings. When they do not intermesh correctly, loosen two screws (6-55) and properly move the cam assembly installed position so that they intermesh correctly.
When gears (6-51, 4-70 and 4-123) are worn, replace them with new ones.

1.2 Films-per-second speed control (2-25) and frational exposure control (2-24)

Check the films-per-second speed control to see if it changes over to 1, 12, 18, 24, 36 and 72 smoothly.

A. When surface along which the two steel balls (2-23) of the fractional exposure control (2-24) slide or holes where the steel balls click are worn, replace the fractional exposure control (2-24) with a new one.

B. When click of the fractional exposure control (2-24) is too weak, replace two springs (2-22) with new ones.

C. When sliding part is not lubricated well or dust exists on the sliding part, thoroughly clean and reassemble correctly.
When sliding part is worn excessively, replace it with a new one.

D. When click of the films-per-second speed control (2-25) is too weak, properly bend the leaf spring (5-29) to adjust the click.

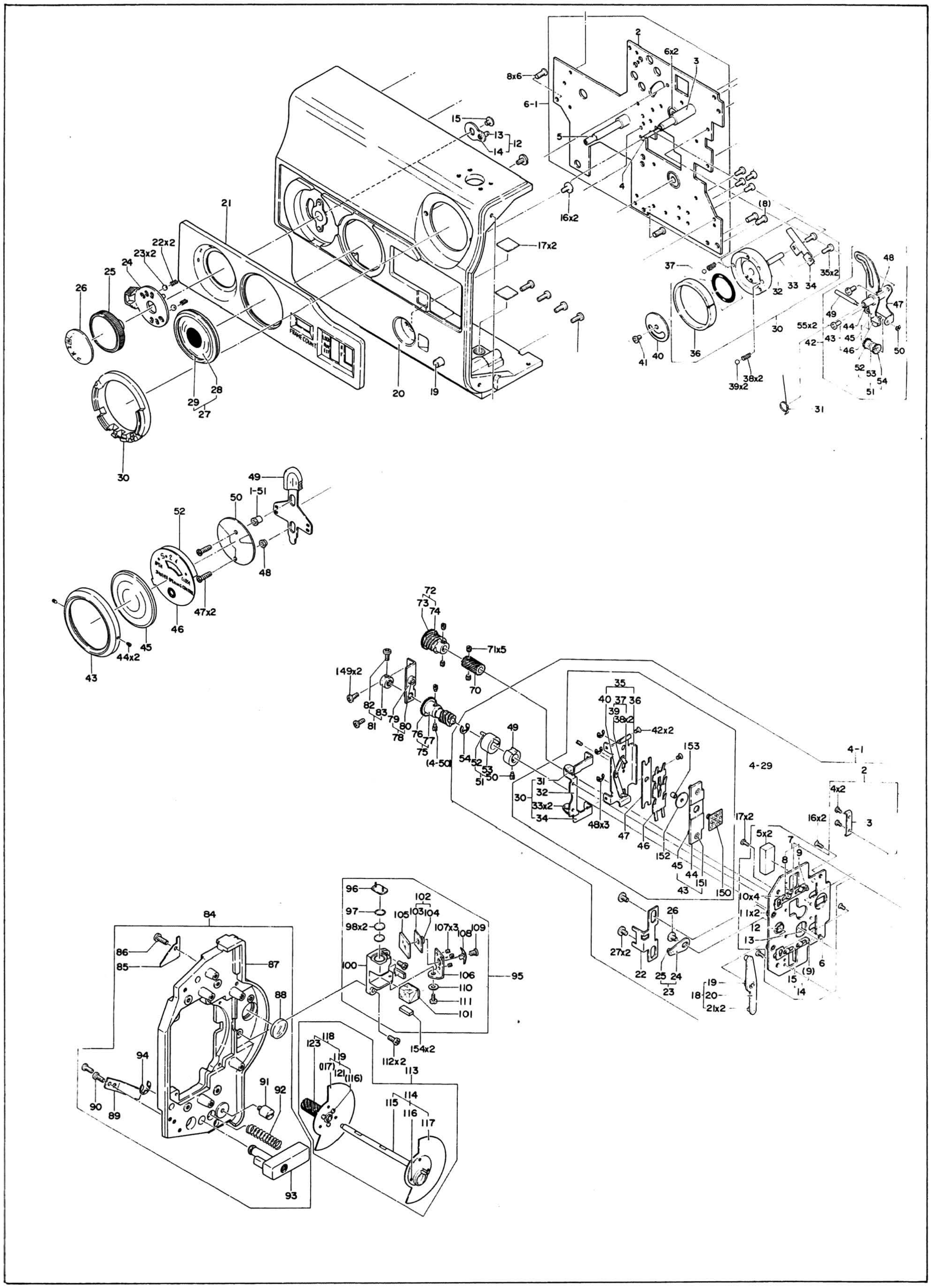
E. When removing the films-per-second speed control (2-25), the following instructions apply:

(a) Remove the body case assembly (2-1).

(b) Remove the screw (2-15) and rotary plate assembly (2-12).

(c) Remove the films-per-second speed control (2-25) carefully so as not to lose the two steel balls (2-23) and springs (2-22).

Fig. 8


6x2
8x6
6-1
16x2
17x2
(8)
35x2
55x2
39x2
38x2
22x2
23x2
FRAME COUNT
1-51
47x2
44x2
71x5
149x2
(4-50)
38x2
42x2
4-29
4-1
4x2
16x2
33x2
48x3
17x2
5x2
10x4
11x2
(9)
27x2
21x2
98x2
107x3
154x2
112x2
(117)
(116)

2. Film chamber door assembly

2.1 Film chamber lock assembly (3-2)

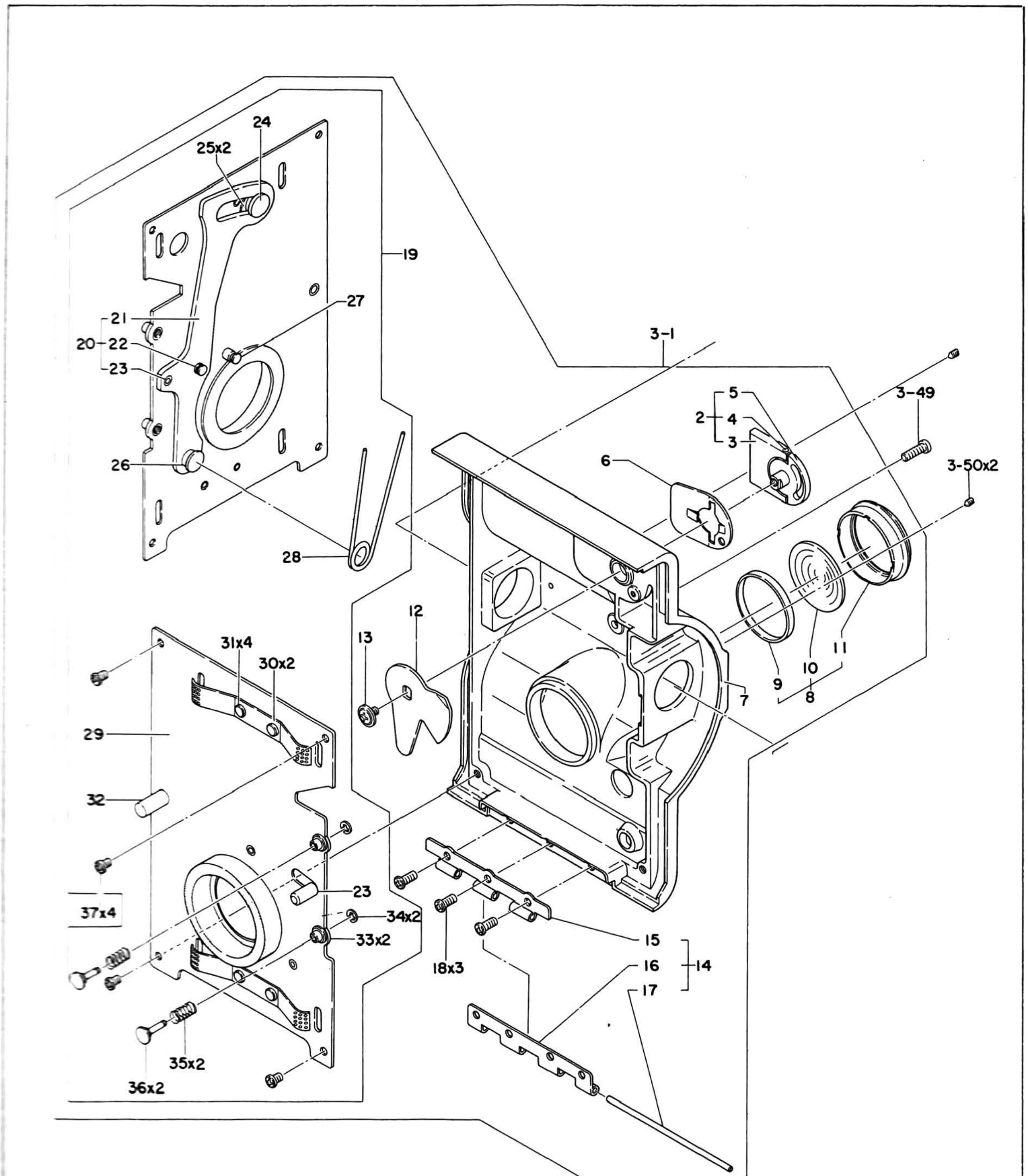
A. When the film chamber lock assembly (3-2) is too loose or it does not click correctly, repair or replace the leaf spring (3-6).

B. When the film chamber lock assembly (3-2) turns freely and does not stop at the proper position, retighten the screw (3-7) after applying screw locking agent to the screw.

2.2 When three screws (3-18) are loose, retighten them after applying screw locking agent. When the hinge assembly (3-14) is deformed due to an external force, replace the hinge with a new one.

2.3 When the lever assembly (3-20) is not caulked correctly causing the lever assembly not to operate smoothly, replace the base plate assembly (3-19) with a new one. When the spring (3-28) is unhooked, hook it correctly.

Fig. 9


25x2
3-1
3-49
3-50x2
31x4
30x2
37x4
34x2
33x2
18x3
35x2
36x2

3. Digital frame counter assembly

A. Set the lever (1-49) of the variable shutter dial to "OPEN", and make sure that the digital frame counter (5-48) does not operate.

B. Set the lever (1-49) of the variable shutter dial to "START", causing the motor to operate, and see if the digital frame counter operates correctly. Return the lever to "OPEN", and see if the frame counter zero-resets.

C. When the lever (1-49) is returned to "OPEN" and the digital frame counter (5-48) does not reset to zero, check the leaf spring (6-34) for weakness and correct spring force if weakened, or when the moving stroke is incorrect, adjust it with washers. When the digital frame counter is defective, replace it with a new one.

D. When the lever (1-49) is within range from "START" and "CLOSE", and the digital frame counter (5-48) does not operate, check the gear of the digital frame counter and worm gear assembly (6-95) for intermeshing, and adjust it properly if necessary. When adjusting the intermeshing, position the gears so that current consumption is minimum.

4. Dial plate assembly

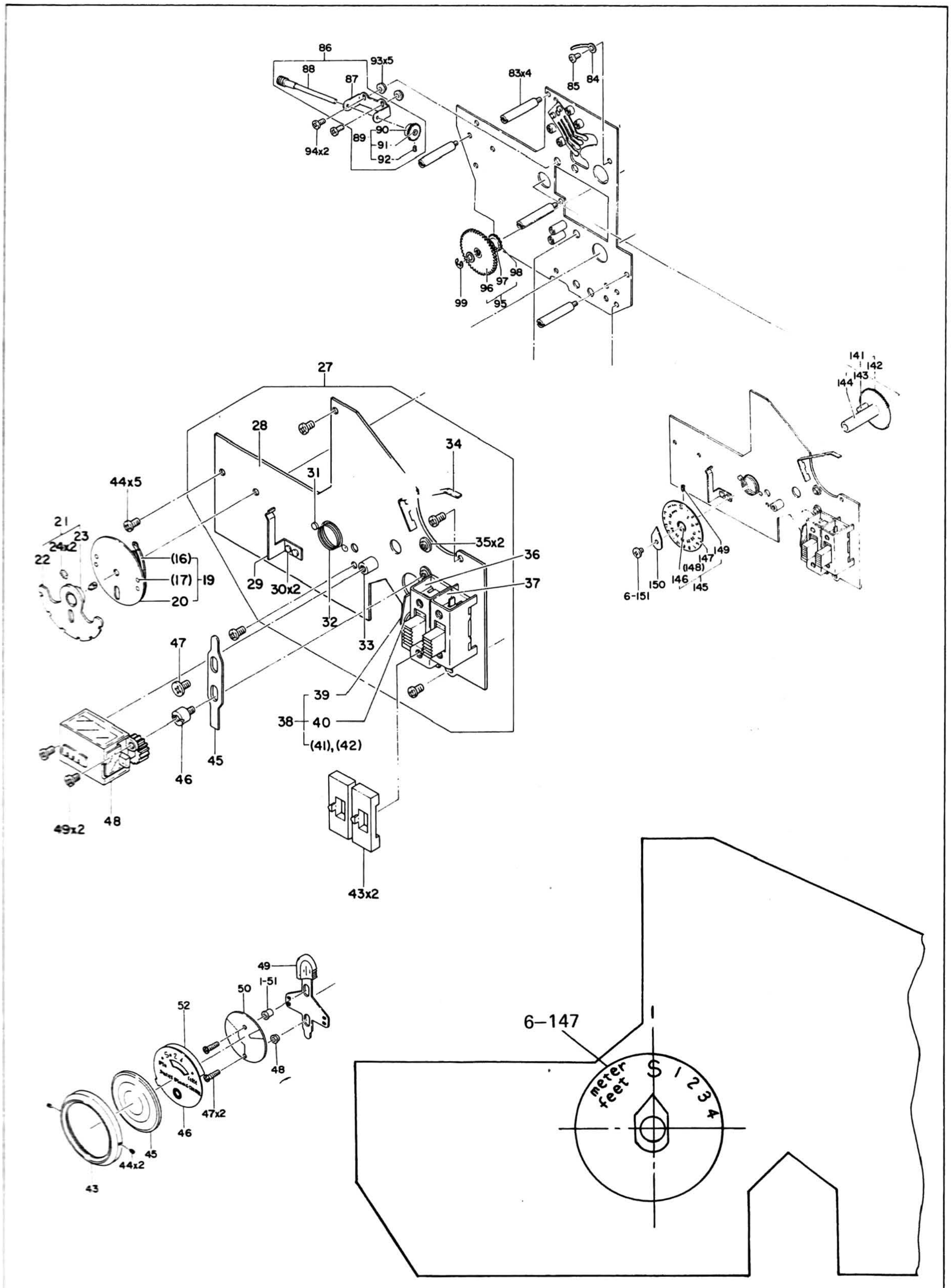
A. Check two screws (6-94) which are used to set the shaft holder assembly (6-86) for slackness. If these screws are loose, the gear of the shaft holder assembly (6-86) does not engage with the gear assembly (6-141).

B. When the spring (5-32) is twisted or unhooked, the dial plate does not advance or zero-reset correctly.

C. When installing the dial plate assembly (6-145), position the dial plate correctly so that its "S" position is positioned against the printed circuit board (5-28) as shown in Fig. 10 , and turn the spring (5-32) 3/4 of one complete turn.

D. Next, match the pointer (6-154) with the "S" position of the dial plate, and secure the pointer with the screw (6-155).

Fig. 10



Relationship between the printed circuit board and dial of footage counter

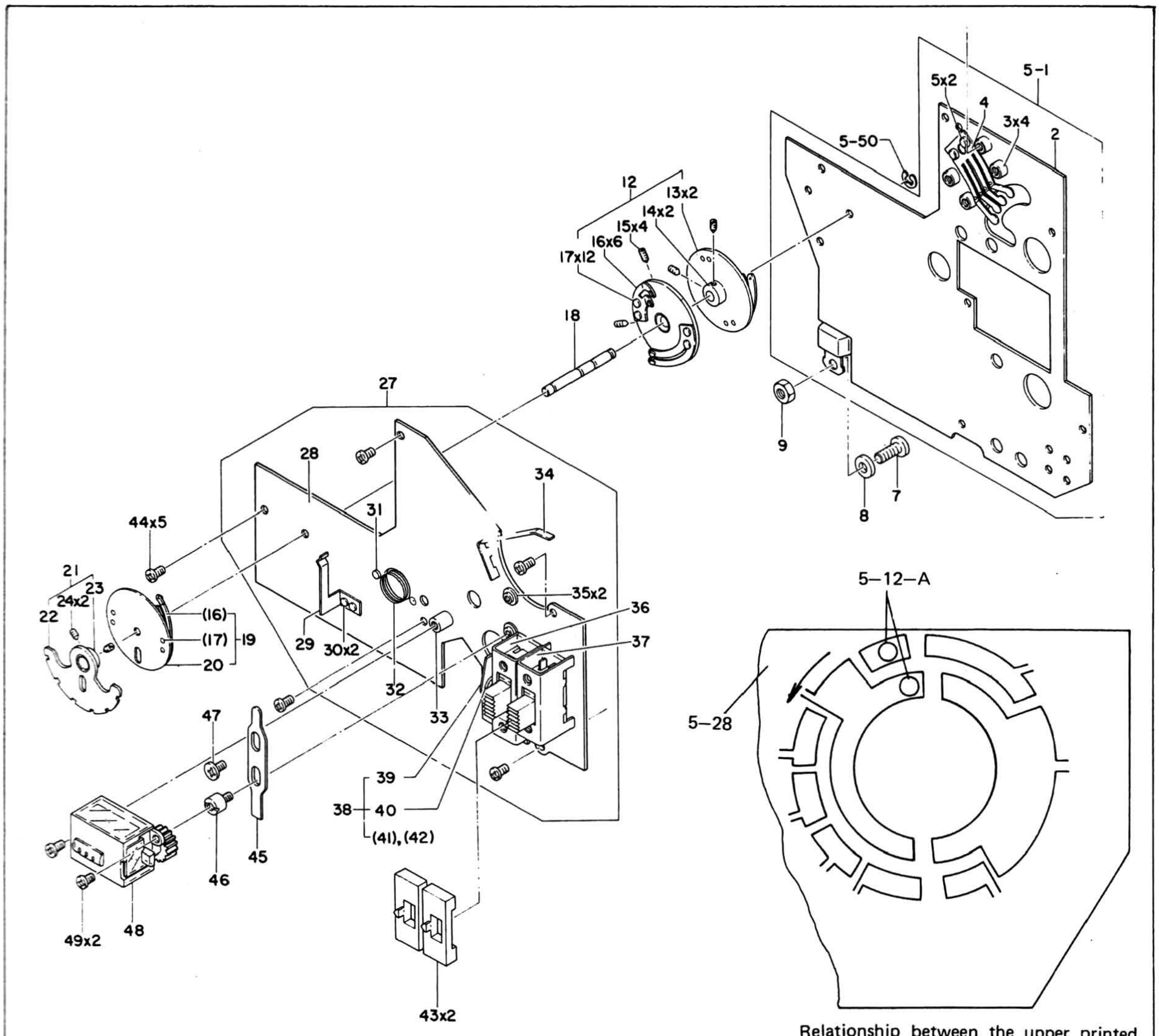
5. Rotary plate assembly and click plate assembly

When installing the click plate assembly (5-21) and two rotary plate assemblies (5-12), align positions of contacts of rotary plate (5-12-A) against the upper printed circuit board (5-28), positions of contacts of rotary plate (5-12-B) against the lower printed circuit board (5-2) and position of the click plate assembly (5-21) against the leaf spring (5-29) as shown in Fig.11 , and then, secure them with four screws (5-14) and two screws (5-24).

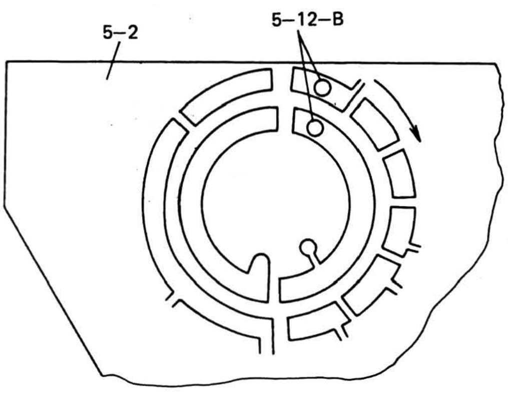
NOTE: The Fig.11 shows the films-per-second speed control being set to "1".

In addition, when installing the click plate assembly and rotary platc assemblies on the body case assembly (2-1), correctly apply the pin of rotary plate assembly (2-12) into the long groove of click plate (5-22) and the pin of fractional exposure control (2-24) into the long groove of rotary plate (5-20).

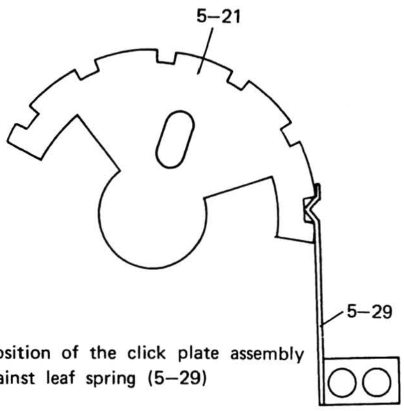
Fig. 11



Relationship between the upper printed circuit board (5–28) and contact piece (5–12–A)



Relative position of the lower printed circuit board against contact piece (5–12–B)



Relative position of the click plate assembly (5–21) against leaf spring (5–29)

6. Driving system

6.1 Excessive current consumption

A. Check all gears related to the driving system for existence of foreign matter and for proper intermeshing. Check support assembly (6-119), worm gear assembly (4-72) and worm gear assembly (4-75) especially carefully.

B. Check the motor by itself for current consumption. The rated current is 80 mA or less at 4V.

6.2 Abnormal operating sound

A. Check all screws related to the driving system for tightness and check all turning parts to insure that they are not in contact with other parts.

B. Check all turning parts for lubrication.

C. Check each gear for smoothness of the intermeshing. When intermeshing is improper, loosen the appropriate screw and adjust the intermeshing.

6.3 Adjustment after replacing solenoid assembly

A. With the solenoid assembly (6-116) moved toward the corrector ring assembly (4-51), tighten four screws (6-7) to secure it.

B. Adjust gap between the stopper pin (4-53) of the corrector ring assembly (4-51) and lever of the solenoid assembly and gap between the lever and leaf spring after installing the solenoid assembly as shown in Fig.12 .

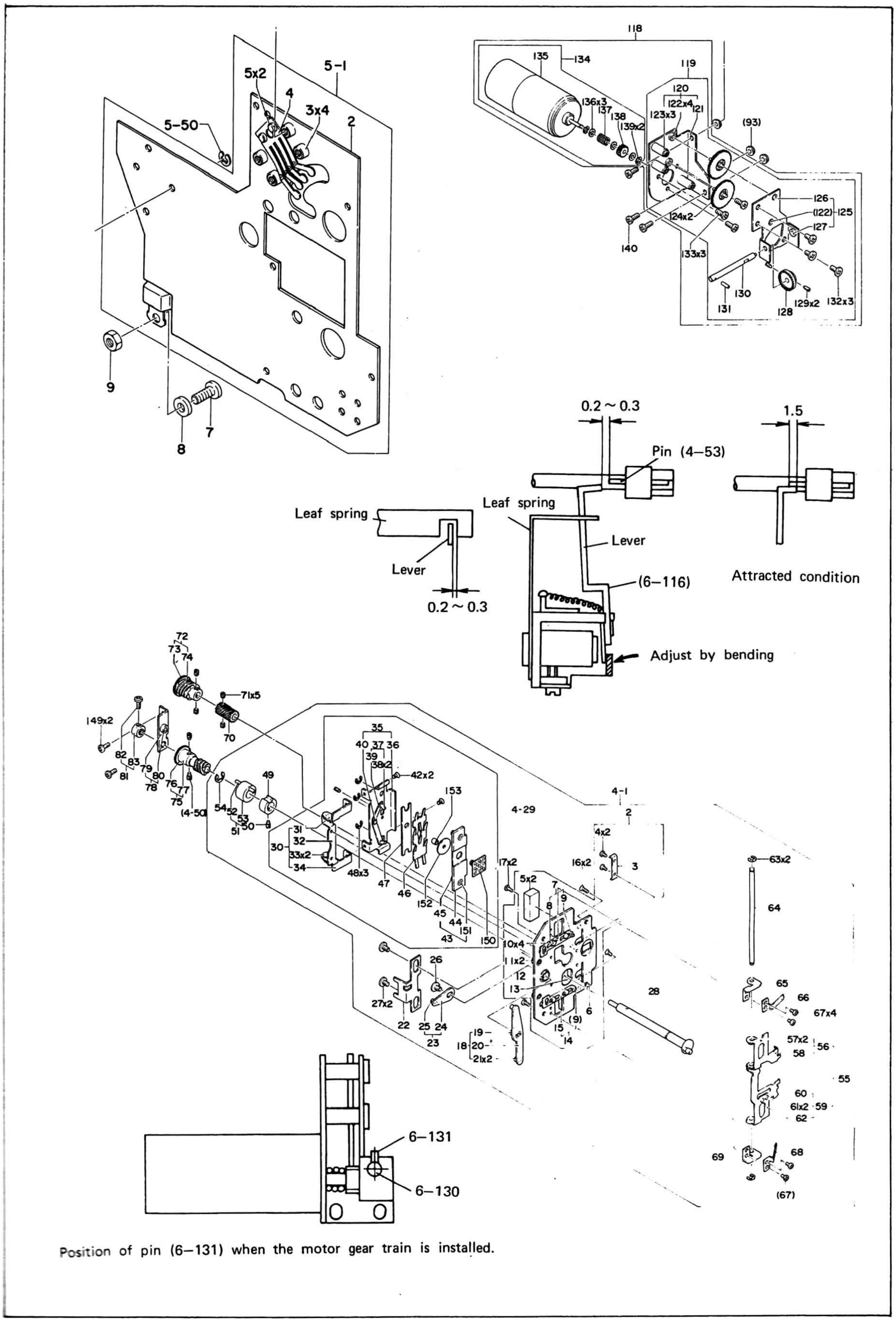
6.4 Positioning and adjustment after replacing motor gear train assembly or a gear of the driving system

A. Install the bushing assembly (4-81) on the shaft with the screw (4-82). Adjust position of the bushing toward the thrust direction.

B. With the motor stopped mechanically, turn the sector shaft to lower the reciprocating mirror assembly (4-126) to the lowest level (The aperture will be covered completely.), intermesh the worm gear assemblies (4-72 and 4-75), and secure them on the sector with two screws (4-71).

C. With the above condition kept, install the motor gear train assembly (6-118). At this time, position of the pin (6-131) of the shaft (6-130) should be as indicated in Fig.12

Fig. 12



Position of pin (6—131) when the motor gear train is installed.

6.5 Adjustment of filming speed

Rated voltages applied to the camera are 5.5V and 11V respectively for low and high speeds.

A. Adjustment for low speed
Load film in the camera, set the frames-per-second speed control to "12", and adjust resistor (7-65) properly so that filming speed is within 12 ± 1.5 F/S.

B. Adjustment for high speed
Load film in the camera, set the frames-per-second speed control to "72", and adjust resistor (7-63) properly so that filming speed is within 72 ± 6.0 F/S.

C. Incorrect filming speed
When rated filming speeds cannot be obtained correctly, check:

- Source voltages ..... See if 5.5V and 11V are applied to the camera respectively for low and high speeds.
- Current ..... The rated current at 18 F/S is 180 mA or less without load. When an R-50 film is fed forward, the rated current is 350 mA or less.
- Motor by itself for operation
- Motor operating circuit (circuit-E)
- Motor gear train (Condition of the motor gear train can also be identified by measuring current.)

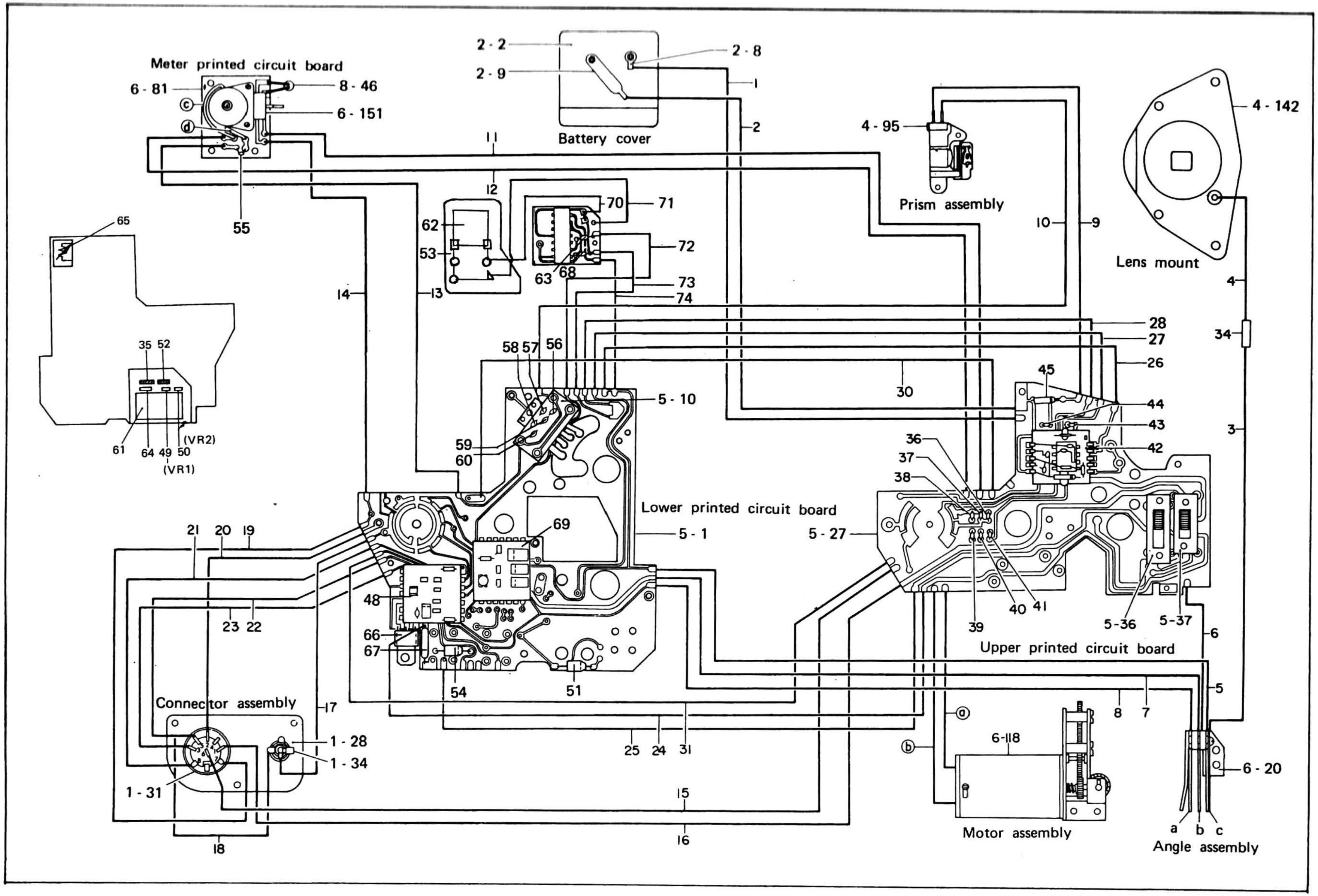

Meter printed circuit board
6 - 81
8 - 46
6 - 151
ⓒ
ⓓ
2 - 2
2 - 8
2 - 9
Battery cover
4 - 95
Prism assembly
4 - 142
Lens mount
5 - 10
(VR2)
(VR1)
Lower printed circuit board
5 - 1
5 - 27
5-36
5-37
Upper printed circuit board
Connector assembly
1 - 28
1 - 34
1 - 31
ⓐ
ⓑ
6-118
Motor assembly
6 - 20
a
b
c
Angle assembly

Fig. 13

6.6 Motor does not operate

For this trouble, check the related parts in the following sequence.

A. For low speed

Source voltage (5.5V) → Switch (5-36) → Shutter release button switch → F-circuit → Relay → E-circuit → Motor

B. For high speed

Source voltage (11V) → Switch (5-36) → Shutter release button switch → F-circuit → Relay → E-circuit → Motor

6.7 Motor does not stop (Switch does not turn off)

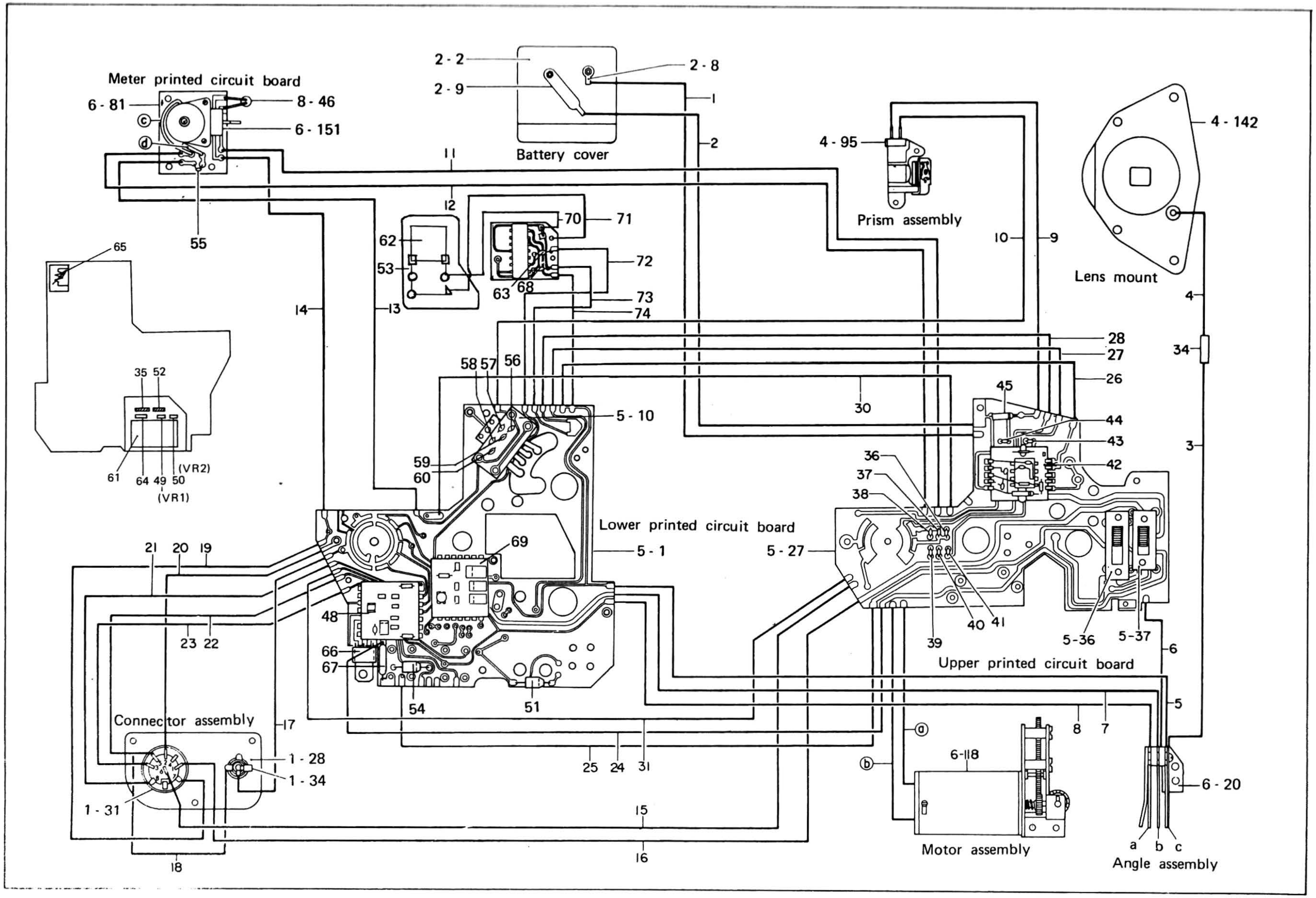
For this trouble, check the related parts in the following sequence.
Shutter release button switch (6-20) → Relay(8-91) → Bushing assembly (4-81) → Solenoid (6-116)

6.8 Motor cannot be turned reversely

For this trouble, check switch (5-37).

6.9 When film is advanced two frames or a half frame at single frame motion, check the F-circuit and then check the solenoid assembly (6-116).

Fig. 14


Meter printed circuit board
6 - 81
8 - 46
6 - 151
ⓒ
ⓓ
2 - 2
2 - 9
2 - 8
Battery cover
4 - 95
Prism assembly
4 - 142
Lens mount
(VR2)
(VR1)
5 - 10
Lower printed circuit board
5 - 1
5 - 27
5-36
5-37
Upper printed circuit board
Connector assembly
1 - 28
1 - 34
1 - 31
ⓐ
ⓑ
6-118
6 - 20
Motor assembly
a
b
c
Angle assembly

6.10 Checking circuits and parts

A. F-circuit (7-69)

a. Normal ..... When the F-circuit is normal, the relay operates as the shutter release button is depressed deeply (contact pieces 7-74, 75 and 76 are in contact each other).

F-block terminal voltages

Between \ F/S	12, 18, 24, 36 or 72	Single frame
F-1 and camera body	Voltage equivalent to the source voltage (5.5V)	Same as left
F-3 and camera body	Approx. 1.5V	Approx. 1.3V At single frame motion only
F-4 and camera body	0V	0V
F-5 and camera body	Approx. 0.8V	0V
F-6 and camera body	3.5 or more	3.5V or more
F-7 and camera body	0V	0V

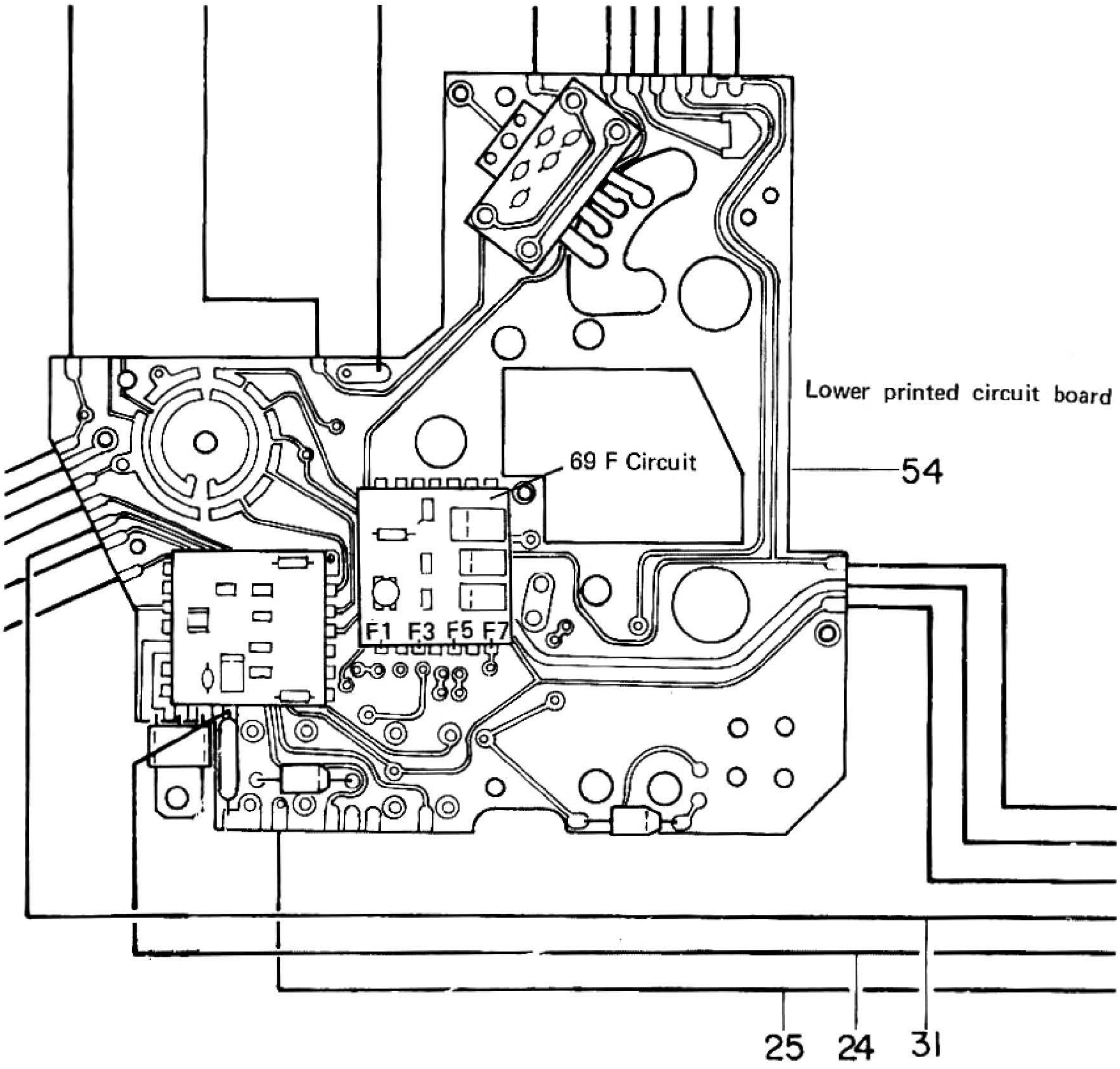
Voltage is generated across the F-6 and camera body only when the solenoid operates.

b. Abnormal ..... When the F-circuit is abnormal, the relay does not operate even if the shutter release button is depressed deeply. In this case, check voltages of the F-block terminals as indicated above, and check the F-circuit for its operation. Connect terminal F-3 to terminal F-7, and see if the relay operates or not. If the relay oprates, the F-block may be judged defective.

Causes for defective F-block (69)

Defective soldering ..... Replace the defective F-block with a new one as it is unrepairable.

Fig. 15



Terminal No.	
F–2	+ terminal of power supply
F–3	Relay control output terminal
F–4	12 to 72 F/S–Single frame switch terminal
F–5, 6	Solenoid control terminal
F–7	– terminal of power supply

B. Relay (7-61)

a. Normal ..... When the relay is normal, it operates as the shutter release button is depressed deeply. The rated voltage at which the relay operates is 4.0V. (Apply 4V to R5 and R6.)

b. Abnormal

Causes for defective relay

- Defective relay or improper soldering ..... Relay does not operate when voltage between relay terminals is 4.0V.
- Defective relay contact or improperly soldered relay terminal ..... The relay operates, but when the shutter release button is depressed deeply, voltage between terminal E-7 and camera body is not zero volt.

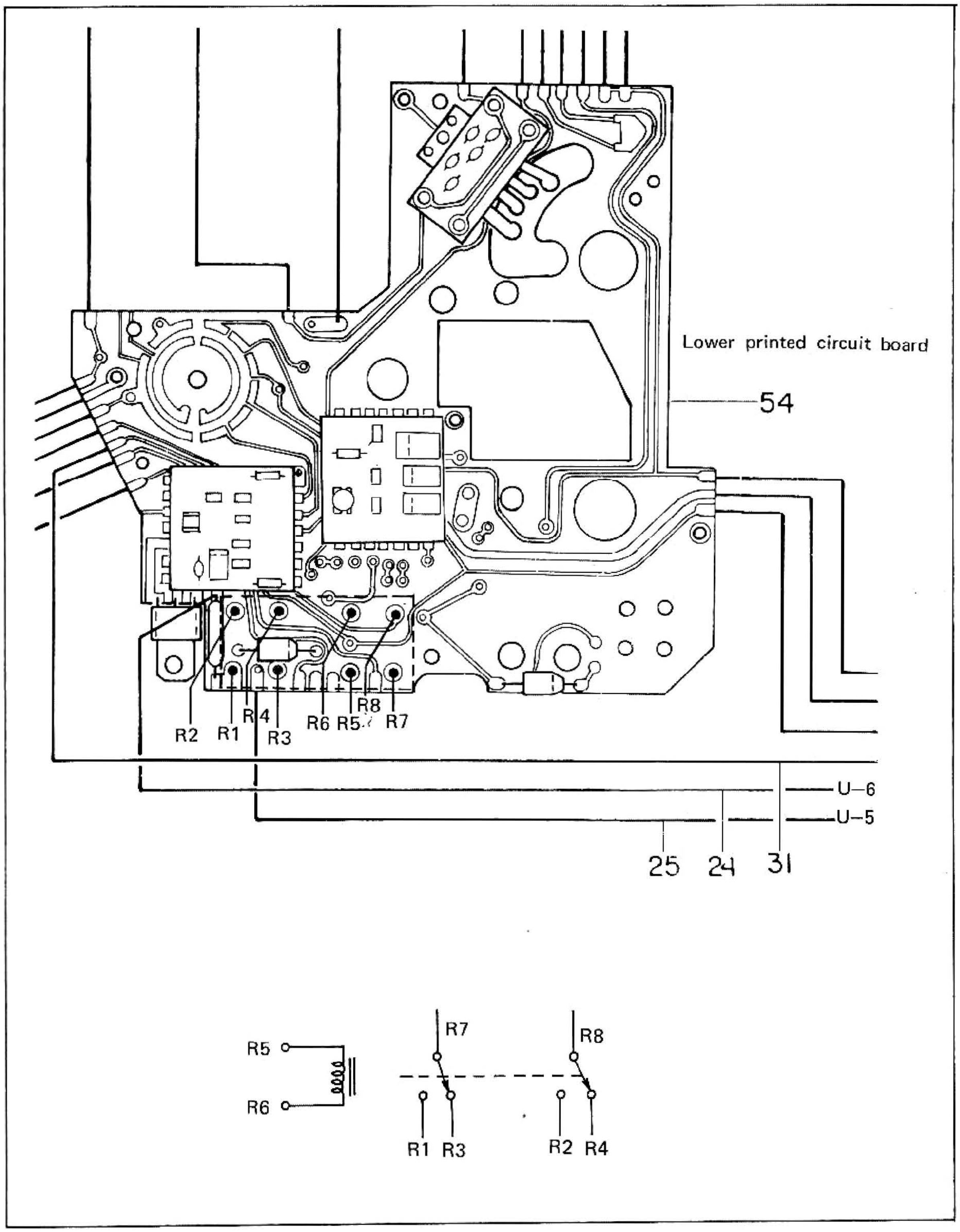
C. E-circuit (7-62)

a. Normal ..... When 5.5V (for low filming speed) or 11.0V (for high filming speed) is applied to the camera and output voltage between terminals U5 and U6 of the upper printed circuit board (35),1.2V at 12 F/S, 1.8V at 1.8 F/S, 24V at 24 F/S, 3.6V at 36 F/S or 7.2V at 72 F/S, the E-circuit is normal.

E-block terminal voltages for low filming speeds (12, 18 and 24 F/S)

Between	Without depressing shutter release button	With shutter release button depressed deeply
E-3 and camera body	5.5V	5.5V
E5 and E6	0V	Approx. 0.1V output per frame
E-7 and camera body	5.5V	0V

Fig. 16


Lower printed circuit board
54
R2
R1
R4
R3
R6
R5
R8
R7
U–6
U–5
25
24
31
R5
R6
R7
R8
R1
R3
R2
R4

E-block terminal voltages for high filming speeds (36 and 72 F/S)

Between	Without depressing shutter release button	With shutter release button depressed deeply
E-3 and camera body	11V	11V
E-5 and E-6	0V	Approx. 0.10V output per frame
E-7 and camera body	11V	0V

E-block terminal connection at each filming speed

F/S	Connected terminals
72	E-14 and E-13
36	E-14 and E-12
24	E-14 and E-11
18	E-14 and E-10
12	E-14 and E-9
1	E-14 and E-8

b. Abnormal ..... (1) Voltage between terminal E-3 and camera body is incorrect, or not generated:

Causes for abnormal E-circuit

- Defective contact of switch (5-36)
- Broken wires on upper and lower printed circuit boards (5-1 and 5-27)
- Improper contact between the lower printed circuit board (5-27) and contact piece of rotary plate assembly (5-12).
- Defective grip
- Defective DIN 8P plug (7-60) or improperly soldered lead wire

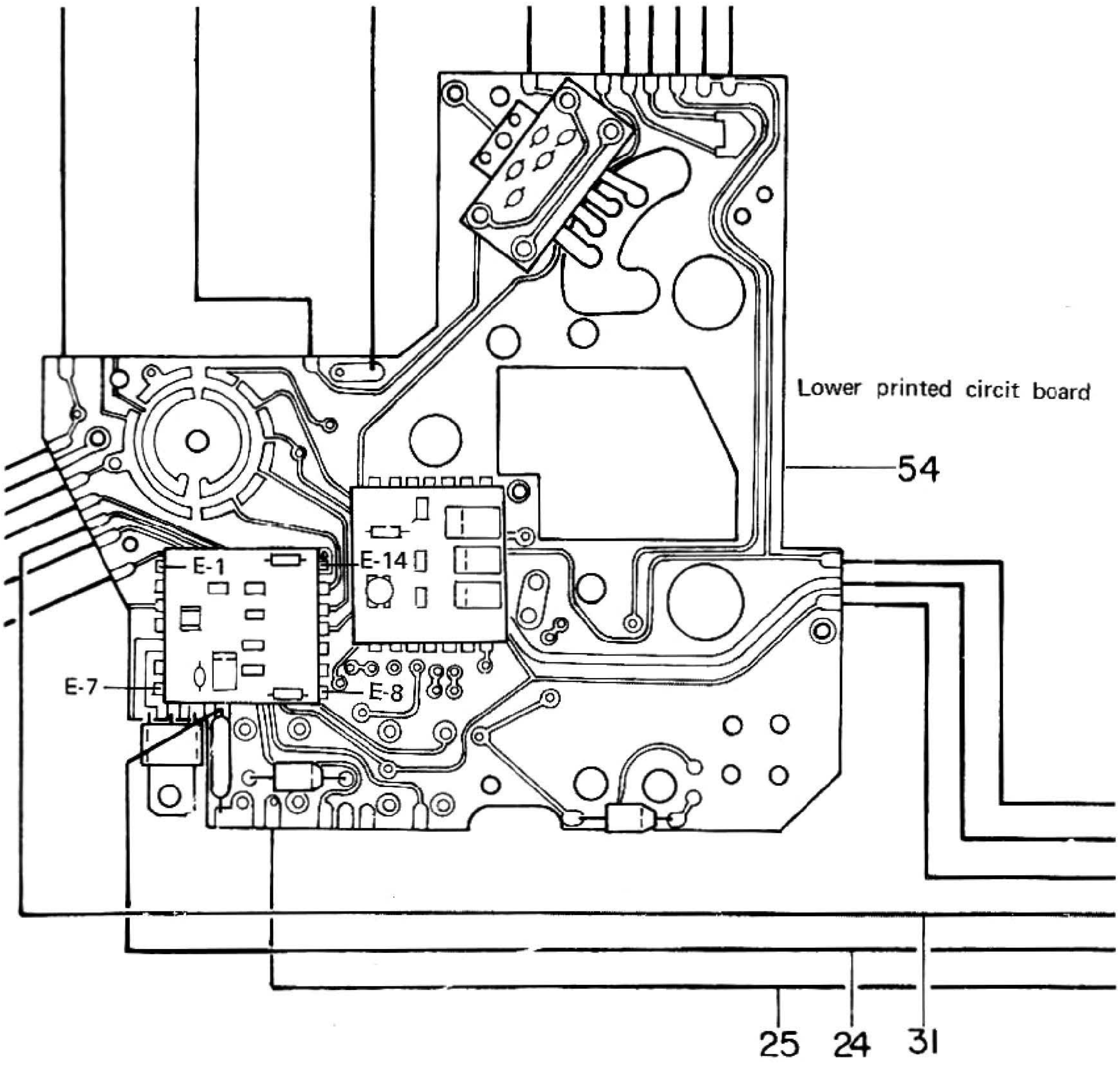
(2) Voltage between terminal E-3 and camera body is correct.

Causes for abnormal E-circuit

- Defective E-block (7-62) or improper soldering. When the
- E-block is defective, replace it with a new one because it is unrepairable.
- Defective power transistor (7-66) or improper soldering
- Defective resistor (7-67) or improper soldering
- Defective diode (7-83) or improper soldering

Refer to the wiring diagram.

Fig. 17



Terminal No.	
E3	+ terminal of power supply
E5	Output terminal
E6	Output terminal
E7	− termianl of power supply
E8 ~ E14	Terminals for switching filming speed

D. Motor assembly (6-134)
When voltage between terminals U-7 and U-8 of the upper printed circuit board (5-1) is approximately 1.8V at 18 F/S but the motor does not turn, disconnect the lead wires of the motor and measure resistance.

- The motor is defective or lead wires (a) and (b) are not soldered correctly when resistance is infinite.
- The motor is normal when resistance is approximately 50 Ω. Check the mechanical parts related to the motor.

E. Power transistor (7-66)
When voltage between output terminals U-5 and U-6 of the E-circuit is not approximately 0.1V per frame, check the power transistor.

a. Normal ..... In the following cases, the power transistor is normal.

  - Continuity exists when positive (+) and negative (-) probes of the ohmmeter are connected respectively to emitter (1) and collector (2) of the power transistor.
  - Resistance is infinite when positive (+) and negative (-) probes of the ohmmeter are connected respectively to collector (2) and emitter (1) of the power transistor.

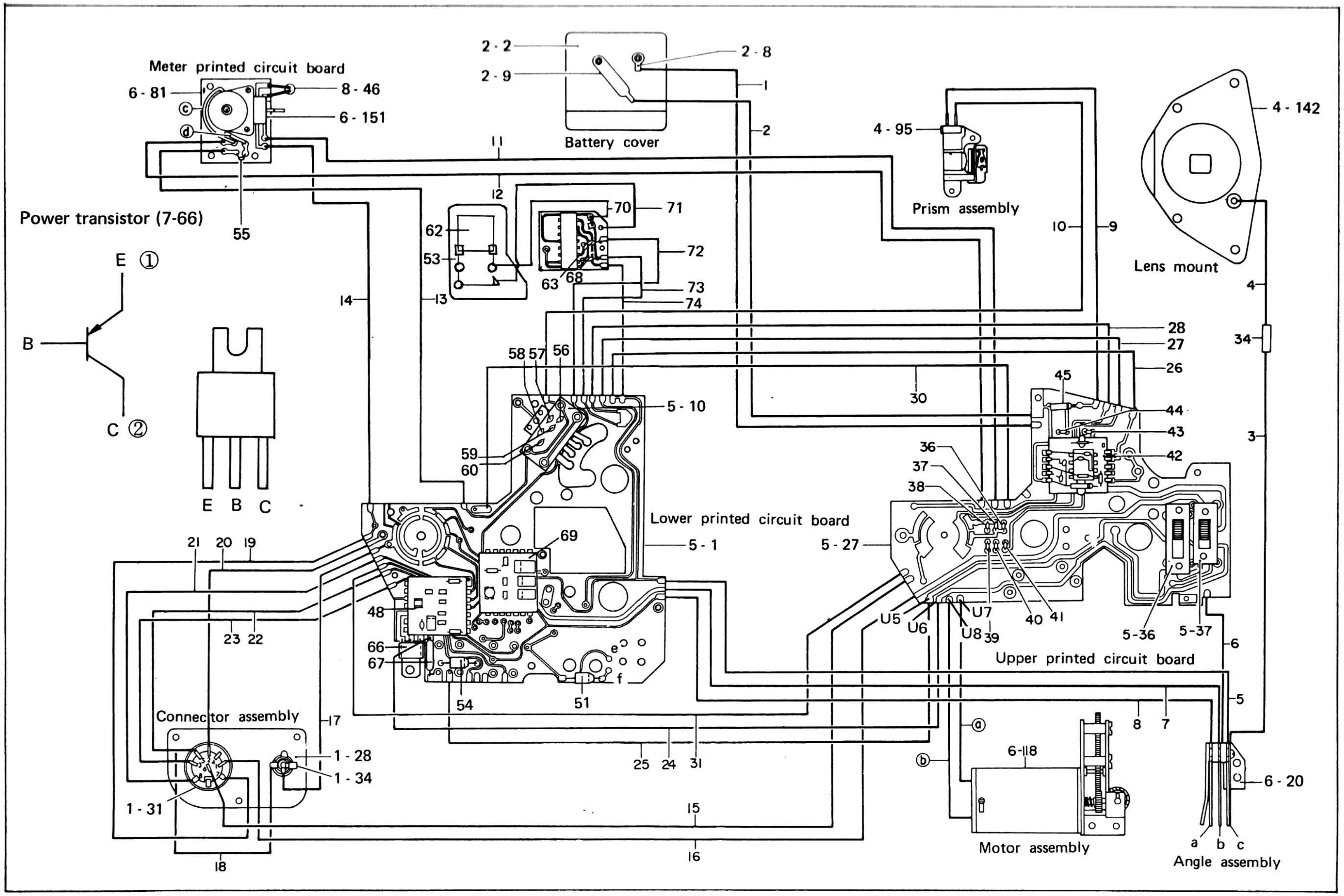
b. Abnormal
When the power transistor is abnormal, replace it with a new one.

F. Solenoid (6-116)

a. Normal ..... As soon as the contact pieces (74) and (75) brake. the solenoid attracts.
Disconnect lead wires (e) and (f) of the solenoid, and apply 2V to the terminals. The solenoid is normal if it operates.

b. Abnormal ..... Check it for broken wire or improper soldering.

Fig. 18


Meter printed circuit board
6 - 81
8 - 46
6 - 151
ⓒ
ⓓ
55
2 - 2
2 - 9
2 - 8
1
2
Battery cover
11
12
Power transistor (7-66)
E ①
B
C ②
E B C
62
53
70
71
72
63
68
73
74
14
13
4 - 95
Prism assembly
10
9
4 - 142
Lens mount
4
34
3
28
27
26
58 57 56
45
30
44
43
42
5 - 10
59
60
36
37
38
Lower printed circuit board
69
5 - 1
5 - 27
21 20 19
23 22
48
66
67
54
51
e
f
U5
U6
U7
U8
39
40
41
5-36
5-37
6
Upper printed circuit board
5
8 7
Connector assembly
17
1 - 28
1 - 34
1 - 31
25 24 31
15
16
18
ⓐ
ⓑ
6-118
Motor assembly
6 - 20
a b c
Angle assembly

7. Film gate assembly

7.1 Adjustment of projection of claw

A. When the pressure plate is opened, claw head must completely sunk below the film gate plane.

B. When the claw is projected above the film gate plane, with the pressure plate closed properly bend the leaf spring (4-39) to adjust projection of the claw.
(Permissible claw projection range is $0.4^{+0}_{-0.1}$ mm)

7.2 Adjustment of position of claw

Loosen two screws (4-67), and adjust the claw position so that it is in the center of a perforation when the film is in contact with the film guide pin. (Adjust claws for both forward and backward filmings.)

7.3 Vertical flicker of film or duplicate images

Replace the film gate assembly (4-1) with a new assembly since adjustment is so difficult.

7.4 Contaminated film gate plane

Clean the gate plane and aperture plane.

7.5 Adjustment of pressure of claw

The rated claw pressure is 20 ± 2 gr. When adjustment is needed, loosen four screws (4-67), and change strength of two leaf springs (4-66) properly. Be sure to adjust pressures for both 1st and 2nd claws.

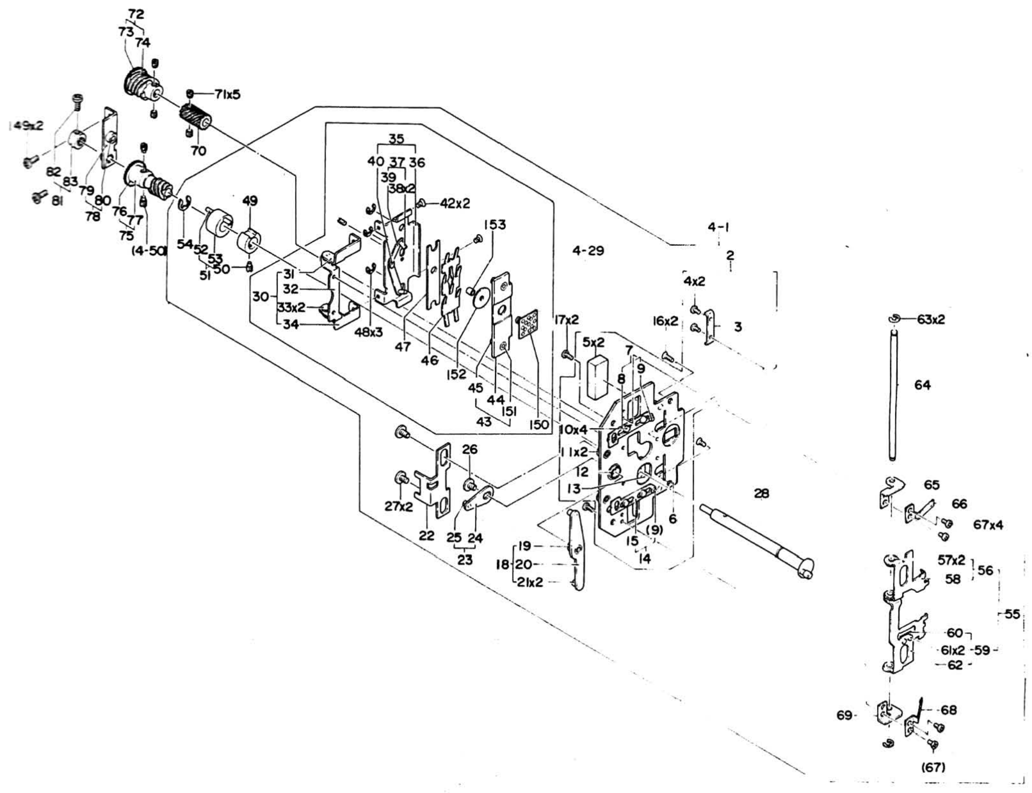
7.6 Adjustment of pressure of pressure plate

The rated pressure of the pressure plate is 80 ± 5 gr. To adjust pressure of the pressure plate, use adjust screw (4-41). When pressure of the pressure plate cannot be adjusted with the adjust screw (4-41), replace the leaf spring (4-46) with a new one.

7.7 Defective meshing of claw

When the claw does not mesh with perforation of film, check the claw for projection, position, pressure, pressure plate for pressure and film take-up torque as described above. When stroke of the claw is incorrect, replace the film gate assembly (4-1) with a new assembly.

Fig. 19


71x5
149x2
(4-50)
38x2
42x2
33x2
48x3
4-29
4-1
4x2
16x2
17x2
5x2
10x4
11x2
(9)
27x2
21x2
63x2
67x4
57x2
61x2
(67)

8. Lens mount assembly

When the lens mount assembly (4-142) is removed for adjustment of flangeback or for other purpose, align center of the lens mount against center of the film gate assembly (4-1). To align center of the lens mount, loosen four screws (4-148), use a lens mount center aligning tool, and position the lens mount assembly correctly so that double-circle chart on the tool is in contact with the end surface of the aperture.

9. Adjustment of flangeback

Flangeback is adjusted with washer (s) (4-147) located in the lower portion of the lens mount assembly (4-142). With the lens mount faced downward, place the camera on a surface plate, and measure heights of film running surface of the film gate from the lens mount (surface on which a lens is installed) by the use of a dial gauge at four points. The rated height from lens installing plane of the lens mount to the film gate plane is 17.49 $^{+0.02}_{-0}$ mm.

10. Reciprocating mirror assembly

10.1 Mirror base assembly (4-134) does not operate correctly.

The mirror base assembly (4-134) goes up and down by its own weight as the reciprocating mirror assembly (4-126) is tilted.
When the shaft and shaft holder are contaminated with dust or other foreign matter, reassemble them after cleaning. Apply Squalol oil to the shaft and shaft holder.

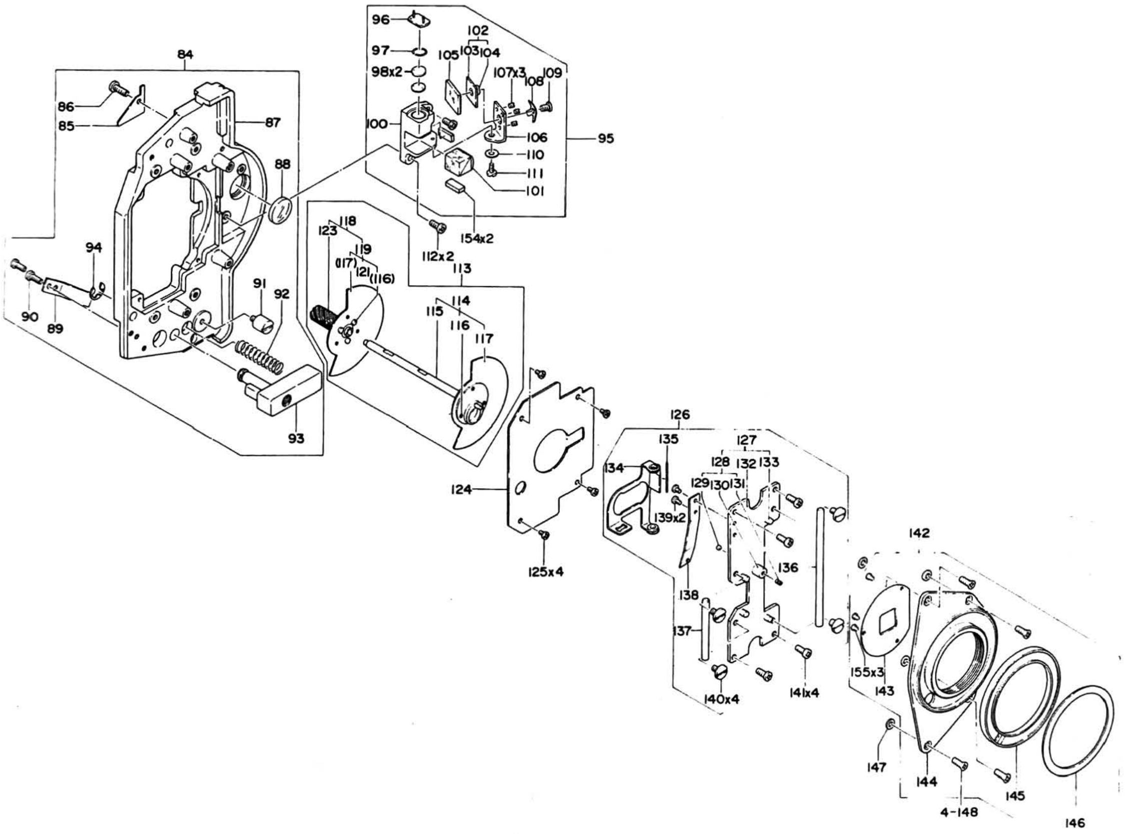
10.2 Surface of the mirror is scarred or cracked.
When surface of the mirror is scarred or cracked, replace the reciprocating mirror assembly (4-126) with a new assembly.

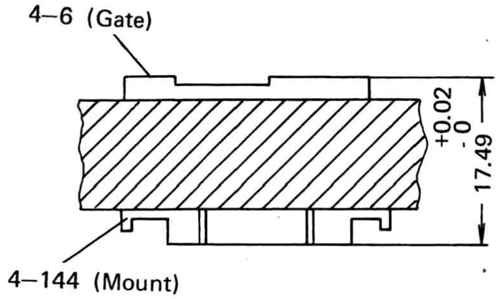
11. Shutter release button assembly

11.1 When the shutter release button (4-93) is in contact with the front cover (2-31), causing the shutter release button to operate incorrectly, repair the front cover.

11.2 When bur or scratch exists in the opening of the front frame or on the shutter release button, causing the shutter release button (4-93) to drag, repair or replace the appropriate parts.

Fig. 20


98x2
107x3
112x2
(117)
(116)
125x4
139x2
140x4
141x4
4-148
154x2
155x3


4–6 (Gate)
+0.02
-0
17.49
4–144 (Mount)

12. Adjustment of optical system

12.1 Reciprocating mirror assembly (4-126)

Install an adjust jig on the surface of boss (on which the lens mount is installed) of the front frame assembly (4-84), loosen four screws (4-141), and spply proper number of washers (4-147) to the lower portion of the base plate (4-132) so that cross hairs of the alignment scope is in the circle of the chart of the adjust jig. (When the adjustment cannot be done unless a 0.2 mm or thicker washer is used, replace the reciprocating mirror assembly with a new one.
In the most cases, the parts of the reciprocating mirror assembly is not adhered correctly.

12.2 Field frame (6-79)

A. When the field frame is tilted, remove the prism assembly (4-95) from the front frame assembly (4-84).

B. Install an adjust jig on the surface of boss (on which the lens mount is installed) of the front frame assembly (4-84), observe the end surface of the aperture and field frame, and adjust posture of the field frame after loosening two screws (6-80).

12.3 Optical axis

Mount a lens on the camera, and adjust optical axis by moving three adjust screws (4-107) of the prism assembly (4-95) and by turning the angle plate (4-106) so that the lens aperture is in agreement with optical axis of the viewfinder system when observed from the front surface of the lens.

12.4 Adjustment of parallax

A. Load a dummy film cartridge (for adjustment of parallax) in the film chamber of the camera, mount a lens (Recommend a 50 to 55 mm lens be used), mount the camera on a parallax adjuster, and operate the motor.

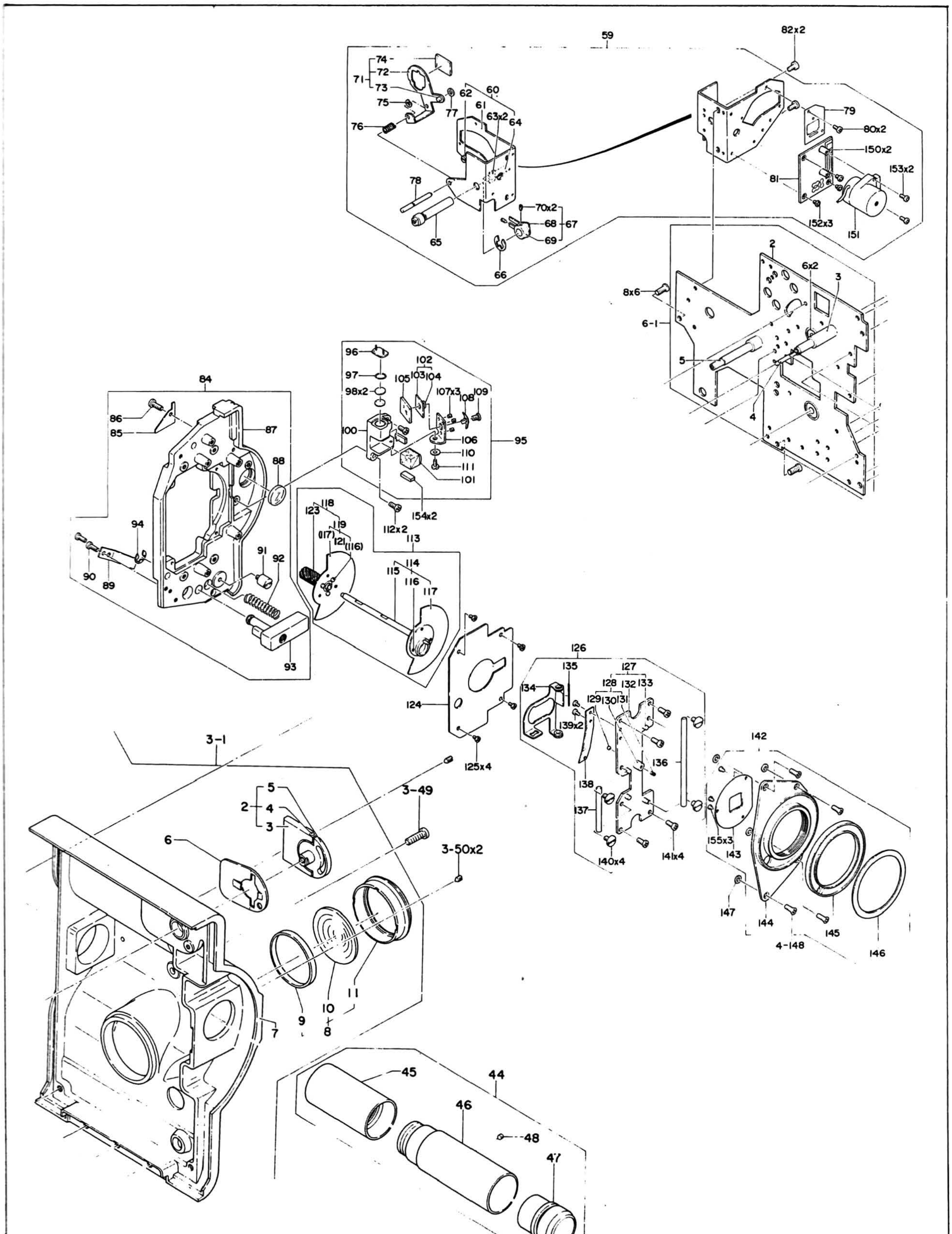
B. For vertical deviation, loosen screw (6-82) and properly move the frame assembly (6-59).

C. For horizontal deviation, loosen screw (3-49) and adjust the viewfinder assembly (3-44) built in the film chamber door assembly (3-1).

D. When position of the frame aseembly (6-59) or viewfinder assembly (3-44) is adjusted completely, mount a zoom lens (10X), and with aperture set to F:22, insure that no vignetting exists in the field of view.

E. If any vignetting exists, repeat adjustments as described in 12.1 through 12.3 above.

Fig. 21


82x2
63x2
80x2
150x2
153x2
152x3
70x2
6x2
8x6
6-1
98x2
107x3
154x2
(117)
(116)
112x2
125x4
139x2
140x4
141x4
155x3
4-148
3-1
3-49
3-50x2

12.5 Adjustment of viewfinder

A. Mount a lens (a 10X zoom lens) on the camera, look into the viewfinder, and match visibility with the focusing glass (6-74).

B. Set the focusing ring to ∞ (infinity) and zooming ring to "TELE", watch an object located in infinite distance, and after loosening screw (3-48), adjust the adjust lens assembly (3-47) of the viewfinder assembly built in the film chamber door assembly (3-1) properly so that the object can be seen clearly.

C. When the adjust lens assembly is positioned correctly, watch an object in a limited distance (for example, two meters), and with the focusing ring set to 2m, insure that the object can be seen clearly.

13. Adjustment of film take-up torque and feed torque

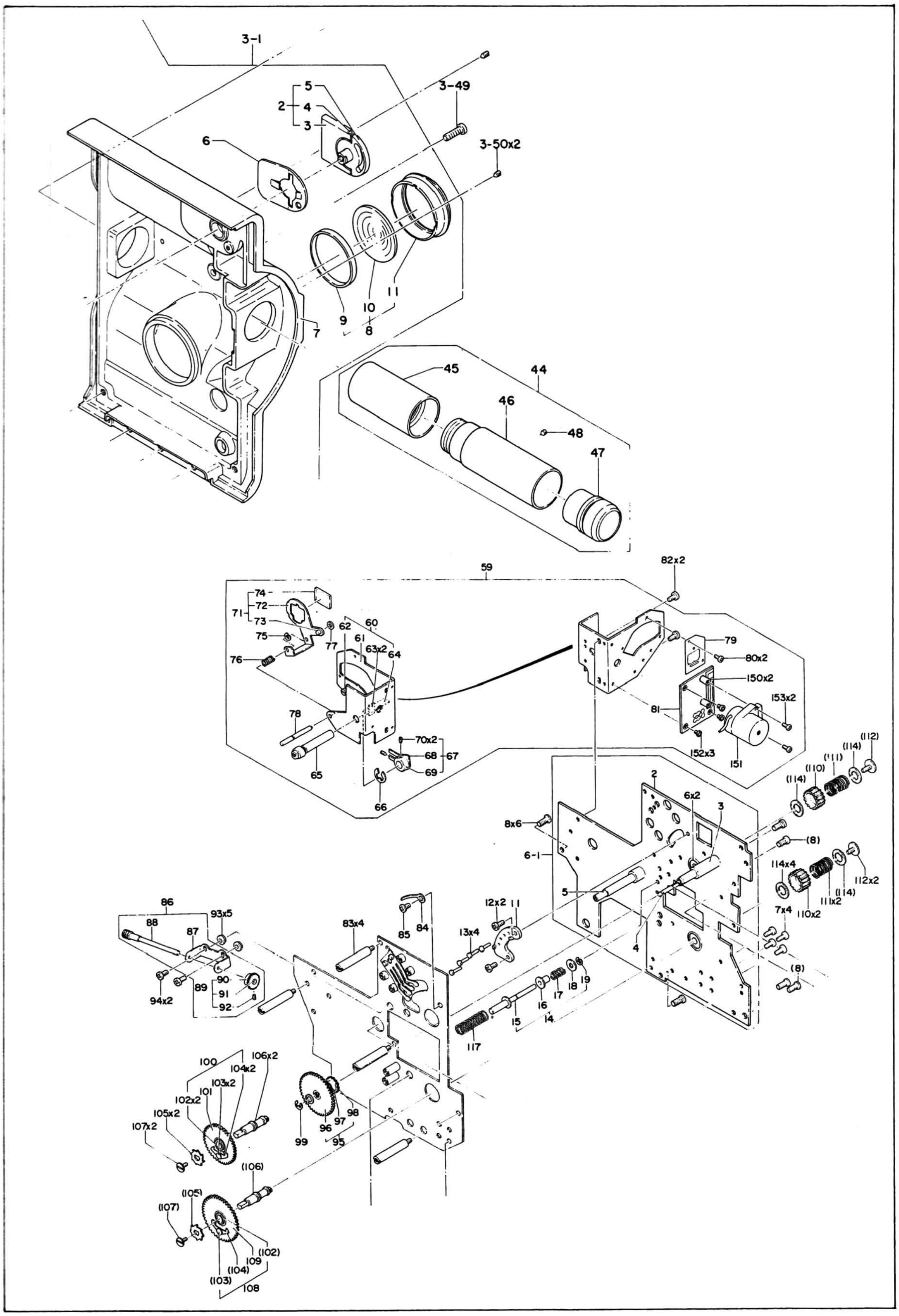
A. Adjust spring forces of the springs (6-111) and (6-113) and thus, adjust film take-up torque and feed torque to the rated values shown below:

   A. Take-up torque: 30 to 45 gr.

   B. Feed torque: 10 to 20 gr.

B. When removing the springs, insert a thin shaft into the small openings on the shaft holder (6-6) and shaft (6-106) to lock them, and remove them after loosening two screws (6-112).

Fig. 22


3-1
3-49
3-50x2
82x2
63x2
80x2
150x2
153x2
70x2
152x3
(112)
(114)
(111)
(110)
(114)
6x2
8x6
(8)
6-1
114x4
112x2
(114)
11x2
110x2
7x4
93x5
83x4
12x2
13x4
(8)
94x2
106x2
104x2
103x2
102x2
105x2
107x2
(106)
(105)
(107)
(102)
(104)
(103)

14. Exposure control system

14.1 Adjustment of brightness at film plane

When brightness at film plane cannot be obtained correctly in accordance with film speed, frames-per-second speed control, fractional exposure control or variable shutter lever, load the camera with 5.0 to 6.0V batteries, and adjust medium and high brightness' as described below:

A. Adjustment of medium brightness

(a) Mount a lens (a 10X zoom lens) on the camera.

(b) Set the controls of the camera as follows:

ASA: 25 (Load an R25 cartridge.)

Frames-per-second speed control:	18
Variable shutter lever:	OPEN
Fractional exposure control:	0

(c) Face the camera to 1746 rlx light source.

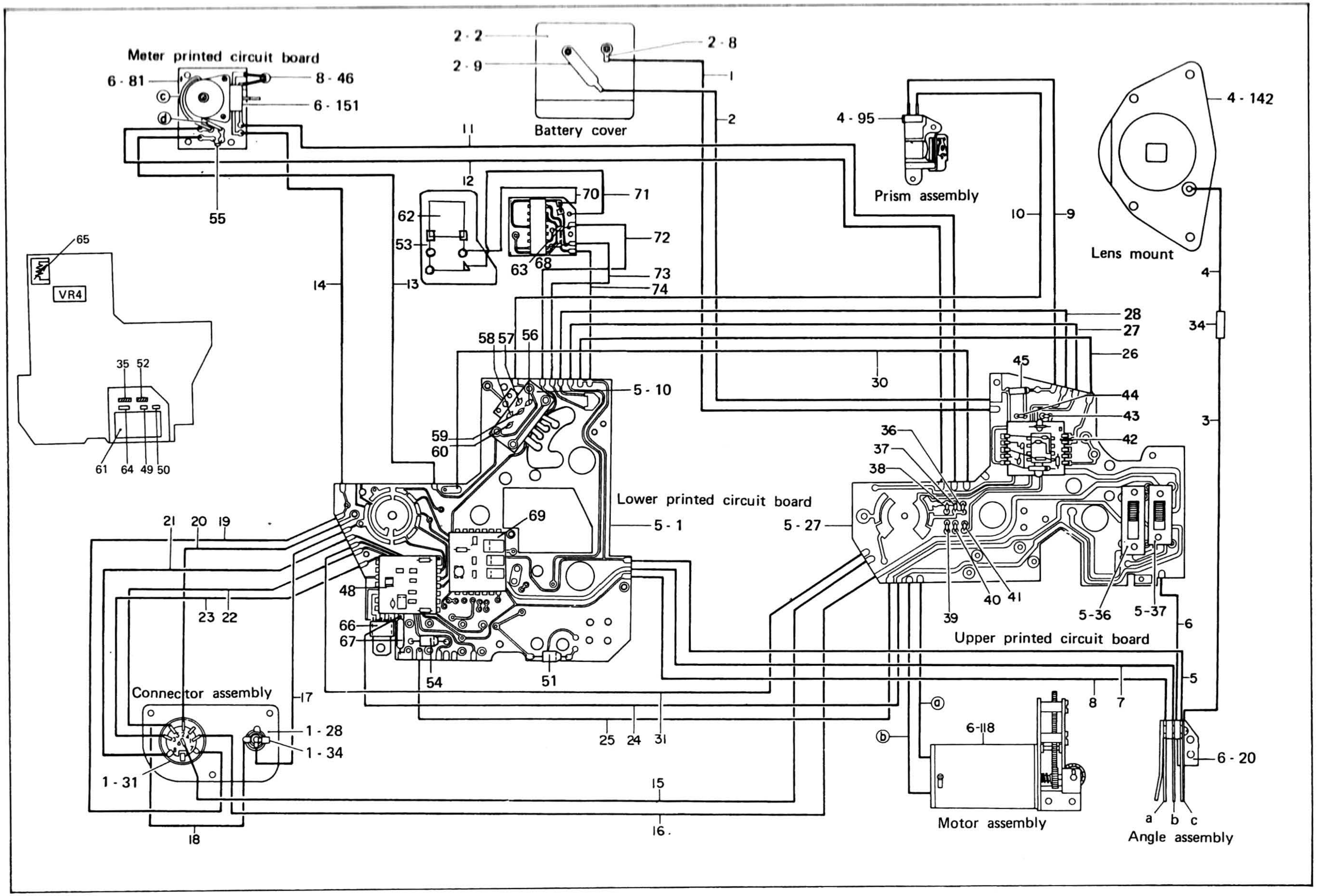
(d) Select an aperture of the lens so that brightness at film plane is 5.42 lx.

(e) Adjust resistor (7-65) so that the needle of the exposure meter is in the center of the viewfinder (between + and - symbols) when the shutter release button is depressed in a half way.

(f) Adjust resistor (7-62) so that indication by the needle of the exposure meter does not differ from that of (e) above when the shutter release button is depressed deeply (with the motor operated).

(g) Repeat adjustments (e) and (f) above so that indication of the exposure meter with the motor operated does not differ from that with the motor stopped.

Fig. 23


Meter printed circuit board
6 · 81
8 · 46
6 · 151
ⓒ
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2 · 2
2 · 8
2 · 9
Battery cover
4 · 95
Prism assembly
4 · 142
Lens mount
VR4
5 · 10
Lower printed circuit board
5 · 1
5 · 27
5-36
5-37
Upper printed circuit board
Connector assembly
1 · 28
1 · 34
1 · 31
ⓐ
ⓑ
6 · 118
Motor assembly
6 · 20
a
b
c
Angle assembly

B. Checking medium brightness

(a) Mount a 10X zoom lens on the camera.

(b) Change film speed from ASA25 to ASA50, from ASA50 to ASA100, from ASA100 to ASA200 and from ASA200 to ASA400 at 18 frames-per-second filming speed; change aperture of the lens at each film speed so that the needle of the exposure meter is always in the center, and measure brightness at film plane at each film speed.

(c) Thus, insure that brightness at each film speed is within the ranges shown below:

ASA 25: 5.42 lx ± 2/3 EV
ASA 50: 2.71 lx ± 2/3 EV
ASA 100: 1.36 lx ± 2/3 EV
ASA 200: 0.68 lx ± 2/3 EV
ASA 400: 0.34 lx ± 2/3 EV

C. Checking high brightness

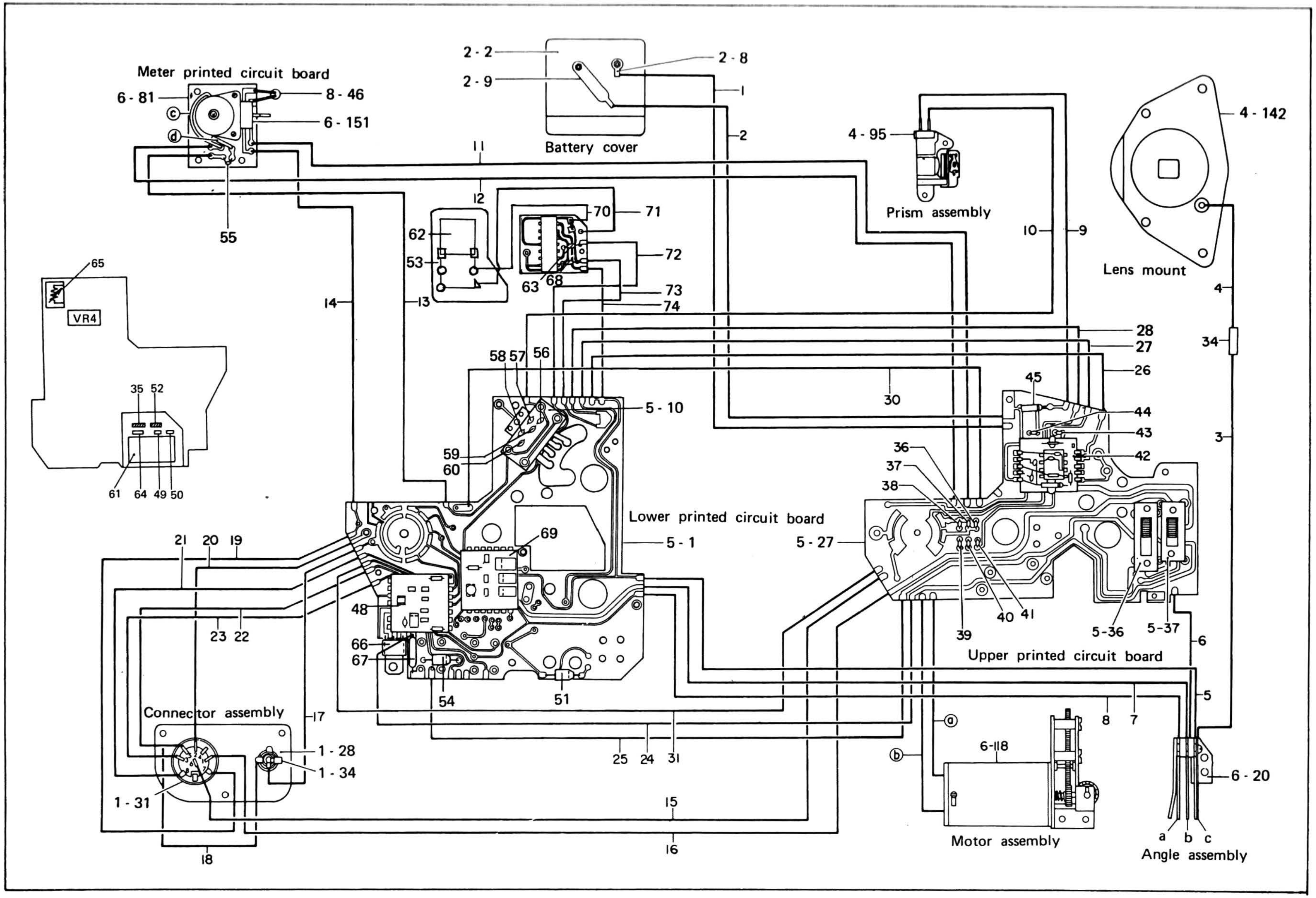
(a) Mount a 10X zoom lens on the camera.

(b) Change filming speed from 12 F/S to 18 F/S, from 18 F/S to 24 F/S, from 24 F/S to 36 F/S, and from 36 F/S to 72 F/S at film speed ASA 25; change aperture of the lens at each filming speed so that the needle of the exposure meter is always in the center between + and - marks, and measure brightness at film plane at each filming speed.

(c) Thus, insure that brightness at each filming speed is within the ranges shown below:

12 F/S: 3.61 lx ± 2/3 EV
18 F/S: 5.42 lx ± 2/3 EV
24 F/S: 7.22 lx ± 2/3 EV
36 F/S: 10.84 lx ± 2/3 EV
72 F/S: 21.68 lx ± 2/3 EV

Fig. 24


Meter printed circuit board
6 - 81
8 - 46
6 - 151
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2 - 2
2 - 9
2 - 8
Battery cover
4 - 95
Prism assembly
4 - 142
Lens mount
VR4
5 - 10
Lower printed circuit board
5 - 1
5 - 27
5-36
5-37
Upper printed circuit board
Connector assembly
1 - 28
1 - 34
1 - 31
ⓐ
ⓑ
6-118
Motor assembly
6 - 20
a
b
c
Angle assembly

(d) Set film speed and filming speed respectively to ASA 25 and 18 F/S, and insure that brightness at film plane is 5.42 lx ± 1EV when variable shutter angle is reduced to 1/2 (1EV correction) or to 1/4 (2EV correction).

(e) When brightness at film plane is not within the above described ratings, check the circuit (wiring, ASA changeover resistor and over exposure compensating resistor), meter, CdS and variable shutter angle changeover system for their conditions.

NOTE: When a 10X zoom lens is used, the aperture scale should be within ± 1 F against the standard scale.

Rated luminosity at film plane

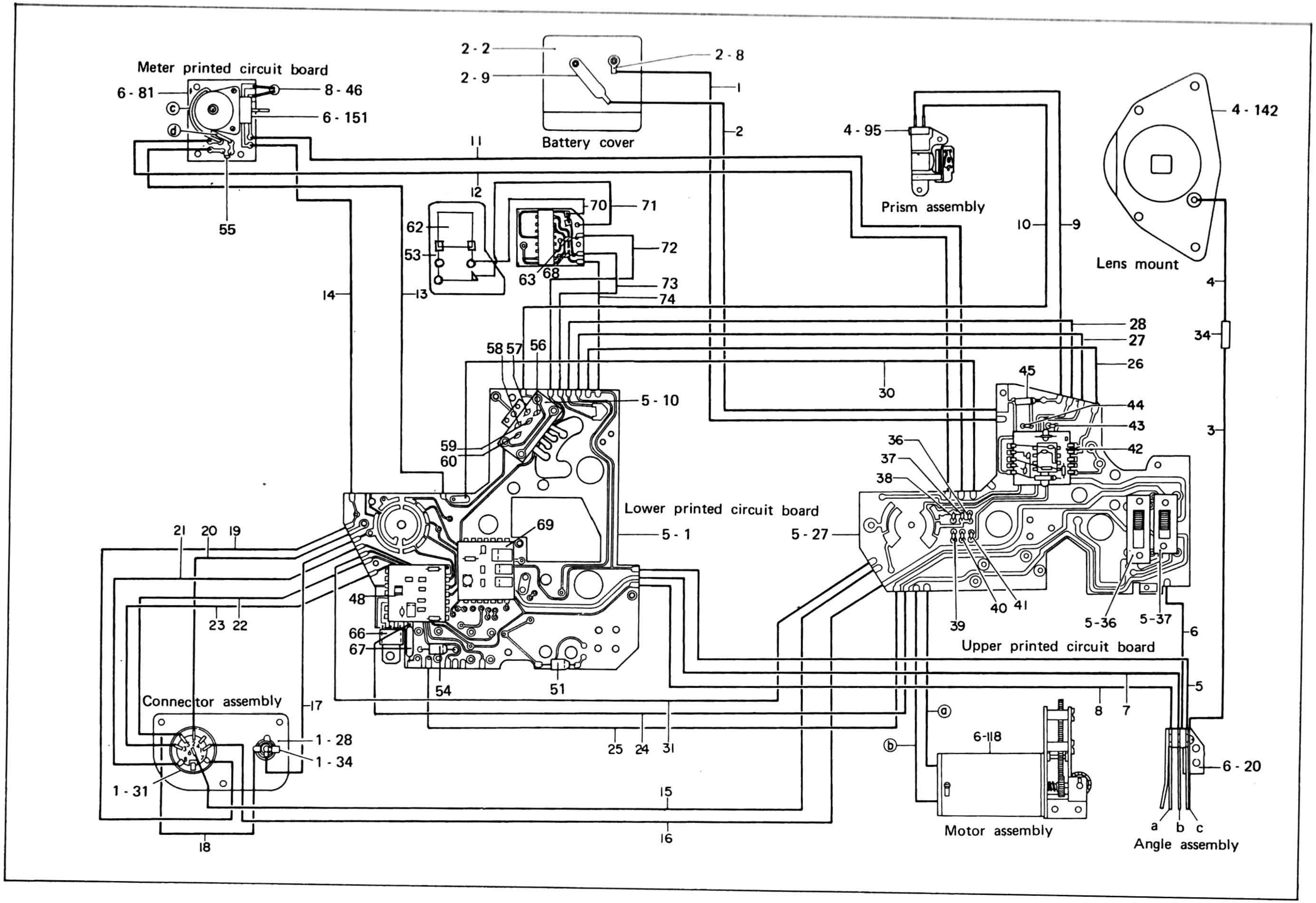
	ASA	25	50	100	200	400
At 18F/S	+1.0EV	(+0.66) 10.84 lx	(−0.33) 5.42 lx	(−1.83) 2.72 lx	(−2.36) 1.36 lx	(−3.3) 0.68 lx
	+2/3EV	(+0.33) 8.60	(−0.66) 4.30	(−1.66) 2.15	(−2.66) 1.08	(−3.67) 0.54
	0 EV	(−0.33) 5.42	(−1.83) 2.71	(−2.36) 1.36	(−3.3) 0.68	(−4.3) 0.34
	−2/3EV	(−1.0) 3.41	(−2.0) 1.71	(−3.0) 0.85	(−4.0) 0.43	(−5.0) 0.21
	−1.0EV	(−1.83) 2.71	(−2.36) 1.36	(−3.3) 0.68	(−4.3) 0.34	(−5.3) 0.17

	Filming speed	12	18	24	36	72
At 25 F/S	+1.0EV	(+0.07) 7.22 lx	(+0.66) 10.84 lx	(+1.10) 14.44 lx	(+1.66) 21.68 lx	(+2.66) 43.36 lx
	+2/3EV	(−0.25) 5.73	(+0.33) 8.60	(+0.75) 11.46	(+1.33) 17.20	(+2.33) 34.41
	0 EV	(−0.78) 3.61	(−0.33) 5.42	(+0.07) 7.22	(+0.66) 10.84	(+1.67) 21.68
	−2/3EV	(−1.57) 2.28	(−1.0) 3.41	(−0.62) 4.55	(0) 6.83	(+1.0) 13.66
	−1.0EV	(−1.93) 1.81	(−1.83) 2.71	(−0.92) 3.61	(−0.33) 5.42	(+0.66) 10.27

The figures enclosed in parenthesis (   ) are converted EVs.

Standard value: 5.42 lx (The standard exposure value of the ZC1000 is -0.33 EV of the 0 EV of other Fuji model 8mm cameras.)

Fig. 25


Meter printed circuit board
6 - 81
8 - 46
6 - 151
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2 - 2
2 - 9
2 - 8
Battery cover
4 - 95
Prism assembly
4 - 142
Lens mount
5 - 10
Lower printed circuit board
5 - 1
5 - 27
5-36
5-37
Upper printed circuit board
Connector assembly
1 - 28
1 - 34
1 - 31
ⓐ
ⓑ
6-118
6 - 20
Motor assembly
a
b
c
Angle assembly

14.2 Inspection of exposure control system

When the exposure control system does not operate correctly:

A. Inspect the system in the following sequence:

(a) Check and see if the rated voltage is applied to the exposure meter circuit.

(b) Photocell (CdS)

(c) Exposure meter (operating condition)

(d) Circuit resistance (film speed changeover circuit, filming speed changeover circuit and over exposure compensating circuit) and switch contact

(e) Drive compensating circuit

B. Details of inspection

(a) With the shutter release button depressed in a half way (with the contacts b and c of (6-20), see if the rated voltage is applied to the exposure meter circuit.

(i) Normal
When the condition is normal, voltage (5.5V) equivalent to the source voltage will be measured across U1 and U3 and approximately 3V will be measured across U1 and U4.

(ii) Abnormal

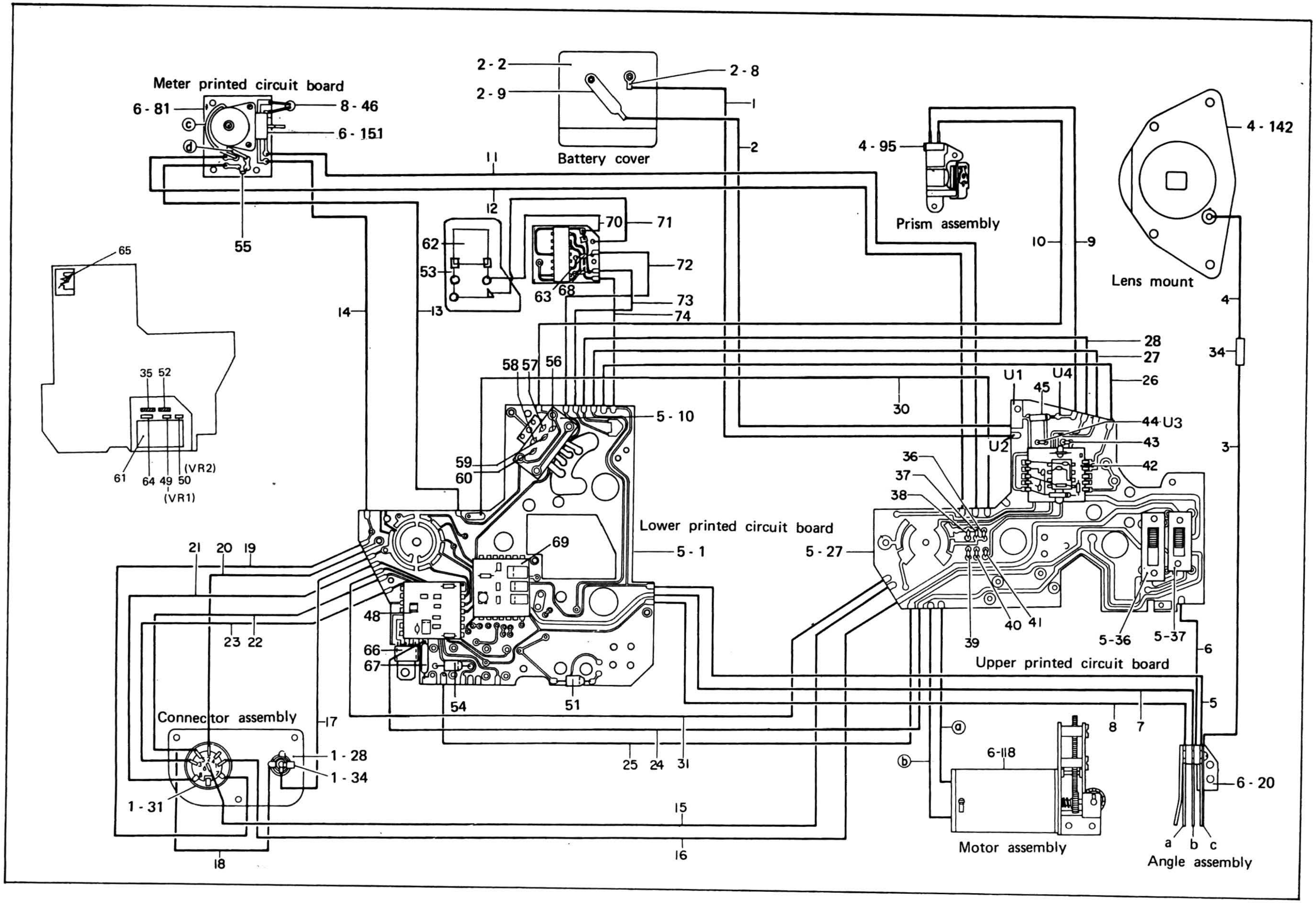
a. When no voltage is measured across U1 and U3 (when OV), check:

- Lead wires (1, 2, 5, 6, and 26) for improper soldering or breaking.
- Contacts (b and c of 6-20) for defective contact
- Copper foil patterns on the upper and lower printed circuit boards (5-1 and 5-27) for breaking
- Switch (5-36) for defectiveness or improper soldering

b. When approximately 3V is not applied across U1 and U4, check:

- Resistor (7-44) for breaking
- Zener diode (7-45) for damaging or improper soldering
- Photocell (CdS) (4-96) for short-circuiting with camera body
- Film speed changeover circuit, filming speed changeover circuit and over exposure compensating circuit for short-circuiting with camera body.

Fig. 26


Meter printed circuit board
6 - 81
8 - 46
6 - 151
ⓒ
ⓓ
2 - 2
2 - 9
2 - 8
Battery cover
4 - 95
Prism assembly
4 - 142
Lens mount
(VR2)
(VR1)
5 - 10
U1
U4
U3
U2
Lower printed circuit board
5 - 1
5 - 27
5-36
5-37
Upper printed circuit board
Connector assembly
1 - 28
1 - 34
1 - 31
ⓐ
ⓑ
6-118
6 - 20
Motor assembly
a
b
c
Angle assembly

(b) Photocell (CdS) (4-96)
Without applying voltage to the camera, disconnect lead wires (7-9 and 7-10) from the upper and lower printed circuit boards (5-1 and 5-27), and measure resistance across the lead wires or across the lead wire and camera body.

(i) Normal
When an ohmmeter is connected to the lead wires and light applied to the lens is changed, resistance displayed by the ohmmeter will change about 5 to 50 KΩ , and resistance across the lead wire and camera body will be zero.

(ii) Abnormal

Check:

- CdS for broken wire or short-circuited CdS terminals
- Lead wires (7-9 and 7-10) for improper soldering or breaking
- CdS terminal for short-circuiting with camera body.

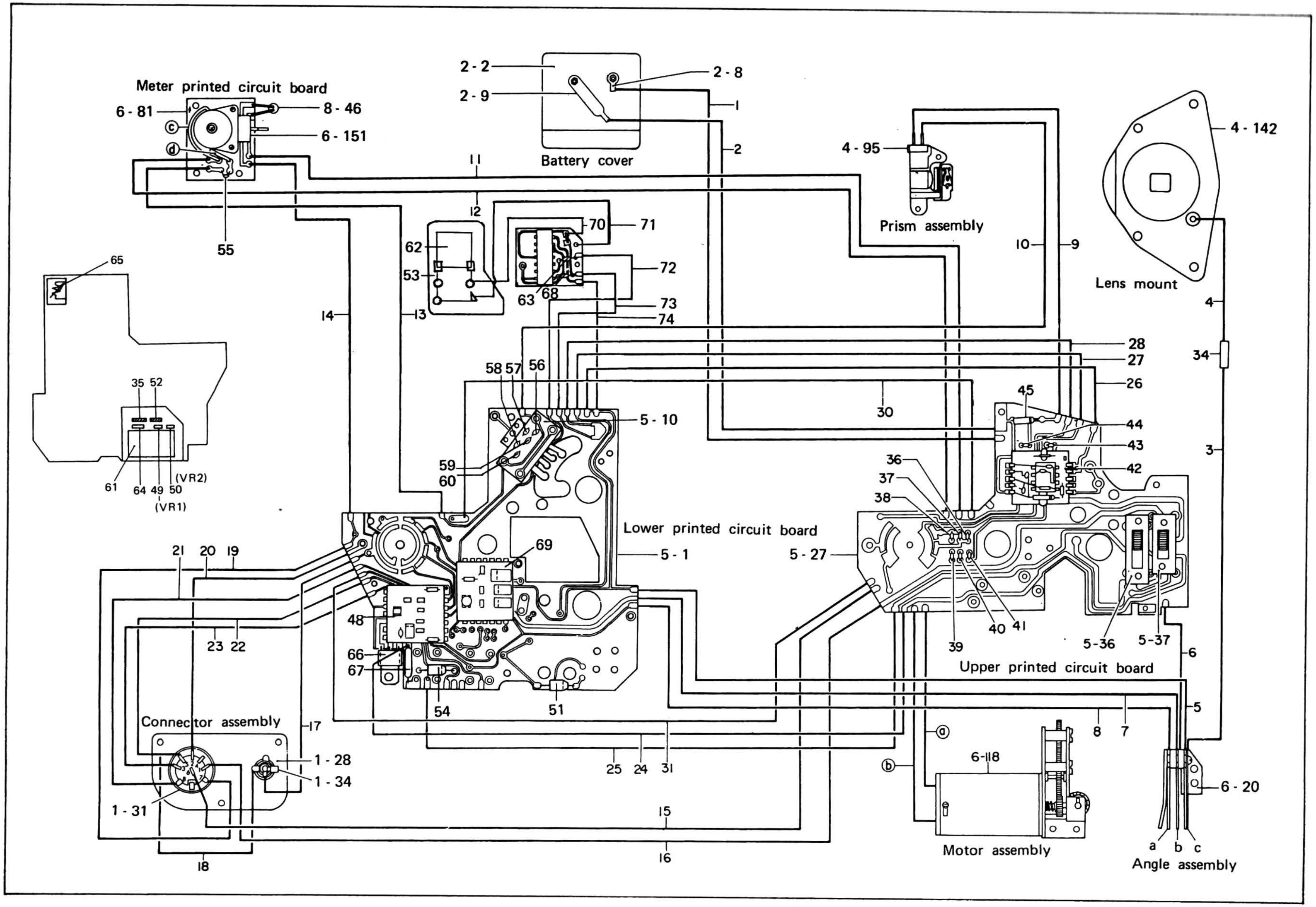
(c) Exposure meter (6-151)
Without applying voltage to the camera, disconnect lead wires (7-12 and 7-13) from the upper and lower printed circuit boards (5-1 and 5-27), and apply 0 to ± 8 μ A across the lead wires.

(i) Normal
When the exposure meter is normal, it will operate in proportion to current change.

(ii) Abnormal
Check:

- Leads wires (7-12 and 7-13) for breaking or improper soldering
- Resistor (7-55) for broken wire or improper soldering
- Exposure meter (6-151) for broken wire, dragging or intrusion of foreign matter

Fig. 27


Meter printed circuit board
6 - 81
8 - 46
6 - 151
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2 - 2
2 - 9
2 - 8
Battery cover
4 - 95
Prism assembly
4 - 142
Lens mount
(VR2)
(VR1)
5 - 10
Lower printed circuit board
5 - 1
5 - 27
5-36
5-37
Upper printed circuit board
Connector assembly
1 - 28
1 - 34
1 - 31
ⓐ
ⓑ
6-118
Motor assembly
6 - 20
a
b
c
Angle assembly

(d) Circuit resistance
Without applying voltage to the camera, check circuit resistance as described below:

a. Film speed changeover circuit
Disconnect lead wire (7-10 and 7-13) from the lower printed circuit board (5-1), and measure resistance across terminal D-2 and camera body.

(i) Normal
When this circuit is normal, resistance will be as indicated below:

ASA 400 (No automatic ASA set pin is depressed): 57.7 KΩ

ASA 200 (Automatic ASA set pin (1) is depressed): 37.2 KΩ

ASA 100 (Automatic ASA set pins (1) and (2) are depressed): 24KΩ

ASA 50 (Automatic ASA set pins (1) through (3) are depressed):
15.5 KΩ

ASA 25 (Automatic ASA set pins (1) through (4) are depressed):
10 KΩ

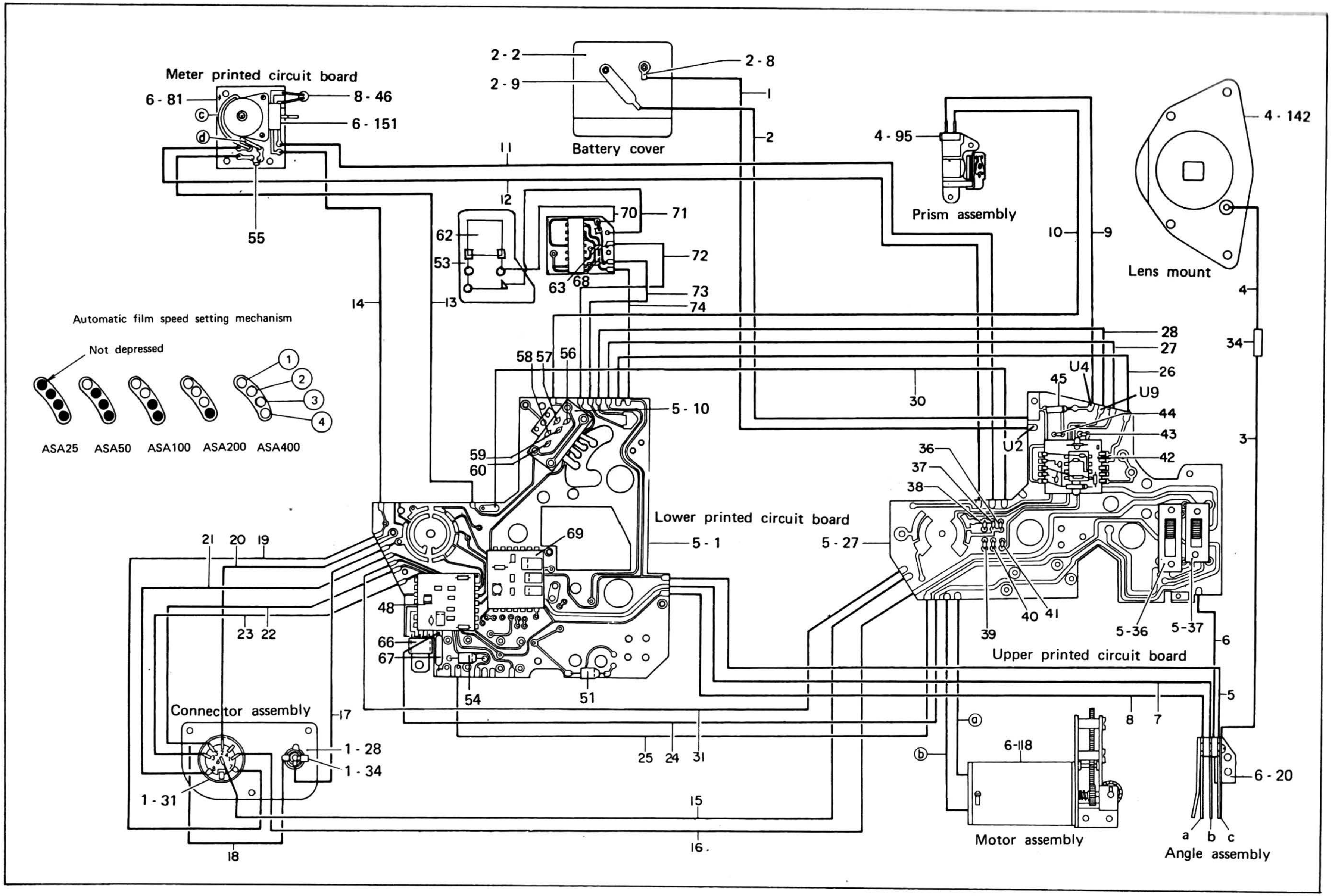
(ii) Abnormal
Check:

Resistor for damaging, improper installation or improper soldering

Copper foil pattern of printed circuit board (5-10) for breaking

Contact sliding surface of the printed circuit board (5-10) for contact condition with contact piece (5-4).

Fig. 28


Meter printed circuit board
6 - 81
8 - 46
6 - 151
ⓒ
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55
2 - 2
2 - 9
2 - 8
1
2
Battery cover
11
12
4 - 95
Prism assembly
4 - 142
Lens mount
10
9
62
53
70
71
72
63
68
73
74
14
13
4
34
3
Automatic film speed setting mechanism
Not depressed
①
②
③
④
ASA25
ASA50
ASA100
ASA200
ASA400
58
57
56
5 - 10
28
27
26
U4
45
U9
30
44
43
U2
42
36
37
38
59
60
Lower printed circuit board
5 - 1
5 - 27
69
21
20
19
48
23
22
66
67
54
51
39
40
41
5-36
5-37
6
Upper printed circuit board
5
8
7
Connector assembly
17
1 - 28
1 - 34
1 - 31
25
24
31
ⓐ
ⓑ
6-118
Motor assembly
6 - 20
a
b
c
Angle assembly
15
16
18

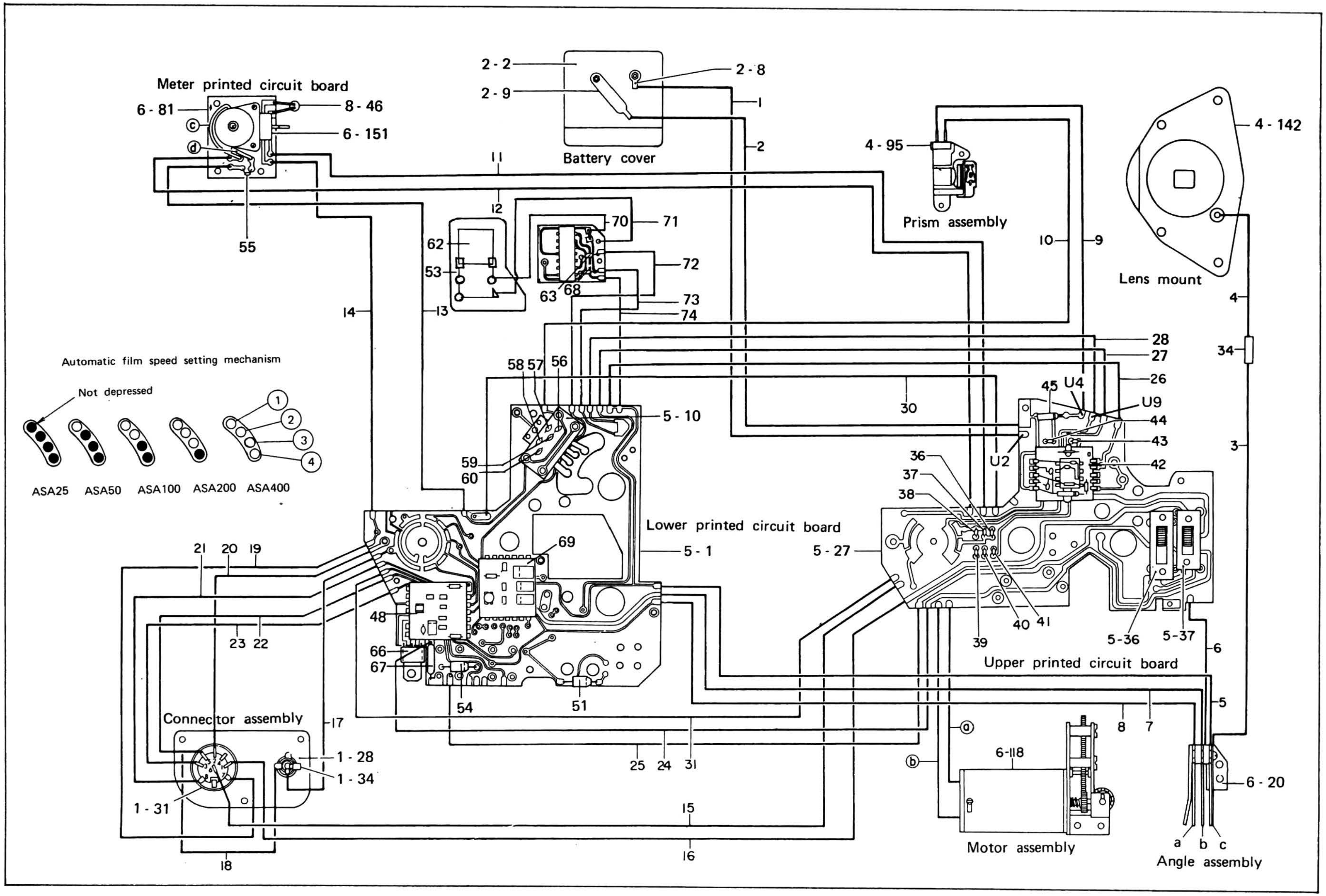
b. Filming speed changeover circuit and over exposure compensating circuit
Disconnect lead wire (7-13) from the lower printed circuit board (5-1), disconnect lead wires (7-9 and 7-12), diode (7-45) and resistor (7-44) from the upper printed circuit board (5-27), and measure resistance across terminals U4 and U9.

(i) Normal
When these circuits are normal, resistances at individual fractional exposure lever positions and filming speeds will be as indicated below:

Fractional exposure lever position	Filming speed (F/S)	Resistance (K Ω)
0	72	10
0	36	15.5
0	24	20
0	18	24
0	12	31.2
0	1	24
2	1	34
4	1	51.5

(ii) Abnormal
Check:

- Resistor for defectiveness, damaging or improper soldering
- Contact sliding surface of the upper printed circuit board (5-27) for contact condition with contact piece (7-54)
- Lead wire (7-28) for breaking or improper soldering.


Meter printed circuit board
6 - 81
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8 - 46
6 - 151
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11
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2 - 2
2 - 9
2 - 8
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2
Battery cover
4 - 95
Prism assembly
4 - 142
Lens mount
10
9
4
34
3
62
53
70
71
72
63
68
73
74
13
14
28
27
26
30
58
57
56
5 - 10
45
U4
U9
44
43
42
U2
36
37
38
59
60
Automatic film speed setting mechanism
Not depressed
①
②
③
④
ASA25
ASA50
ASA100
ASA200
ASA400
21
20
19
69
Lower printed circuit board
5 - 1
5 - 27
48
23
22
66
67
54
51
39
40
41
5-36
5-37
6
Upper printed circuit board
5
8
7
Connector assembly
17
1 - 28
1 - 34
1 - 31
25
24
31
ⓐ
ⓑ
6-118
6 - 20
15
16
18
Motor assembly
a
b
c
Angle assembly

Fig. 29

(e) Drive compensating circuit

Light value applied to the photocell with the motor stopped differs from that with the motor operated. The drive compensating circuit is used to equalize indication by the exposure meter regardless of with or without motor operated.

Measure voltage across terminal C4 of C-circuit and camera body.

(i) Normal

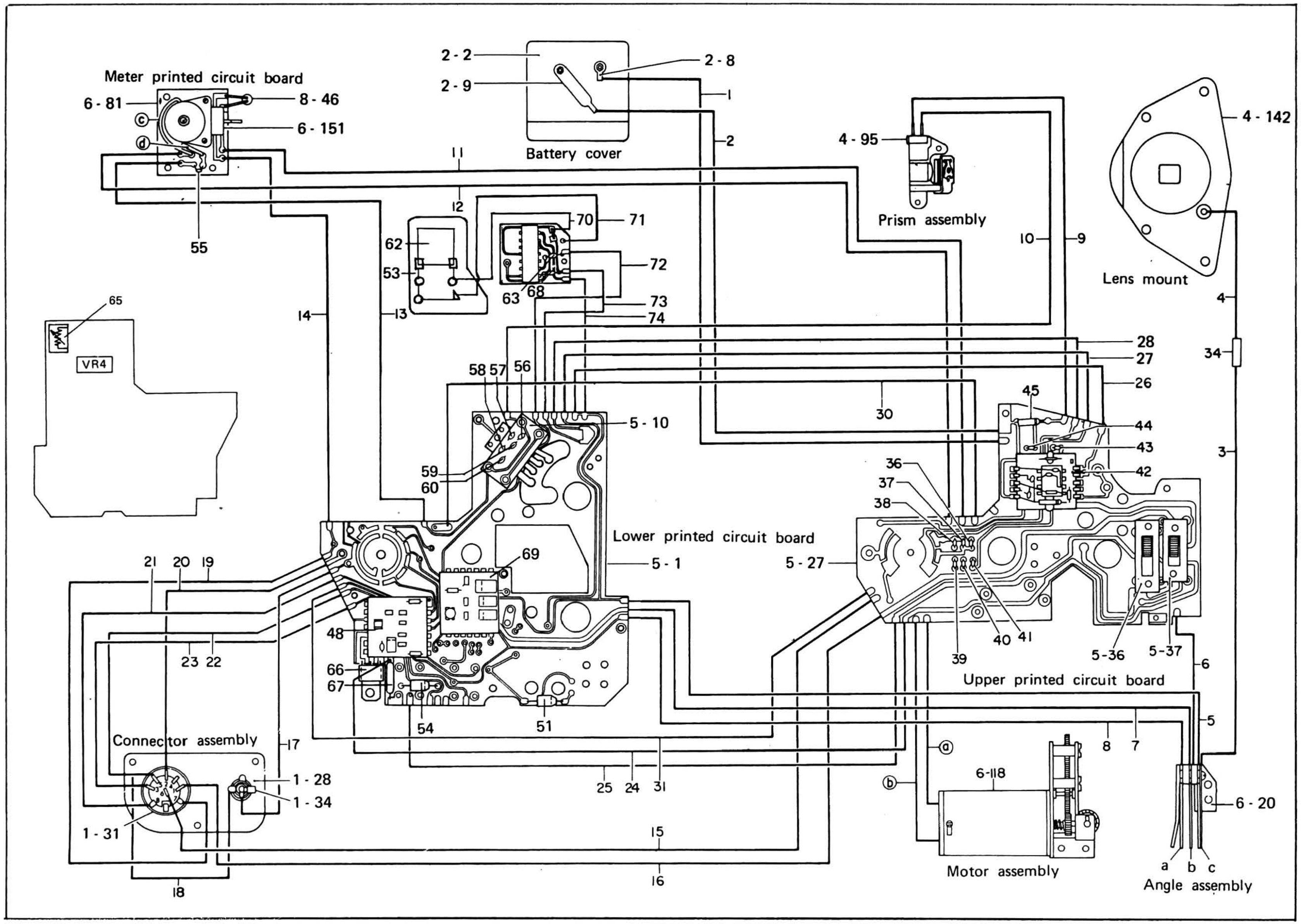
- ° With the shutter release button depressed in a half way same voltage as source voltage (5.5V) will be measured.
- ° With the shutter release button depressed fully (Motor is operating (Points a, b and c of contact piece (6-20) are in contact)), zero volt will be measured.

(ii) Abnormal

Check:

- ° C-block (7-47) for defectiveness or improper soldering
- ° Lead wires (7-70, 7-71 and 7-72) for breaking or improper soldering
- ° Resistors (7-65) and (7-62) for broken wire or improper soldering
- ° Resistor (7-68) for incorrect resistance or improper soldering

Fig. 30


Meter printed circuit board
6 - 81
ⓒ
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8 - 46
6 - 151
2 - 2
2 - 9
2 - 8
Battery cover
4 - 95
Prism assembly
4 - 142
Lens mount
VR4
5 - 10
Lower printed circuit board
5 - 1
5 - 27
5-36
5-37
Upper printed circuit board
Connector assembly
1 - 28
1 - 34
1 - 31
ⓐ
ⓑ
6-118
Motor assembly
6 - 20
a
b
c
Angle assembly

14.3 Battery checker/warning signal (A-circuit)

Battery can be checked by applying voltage (5.5V to 11V) and by depressing the shutter release button in a half way. Note that battery cannot be checked when the shutter release button is depressed deeply.

A. Operation (at 22 ± 2 ° C)

- ° Battery checker
  At low filming speed (1, 12, 18 or 24 F/S): LED (7-46) lights when voltage is 4.2V or less.
  At high filming speed (36 or 72 F/S): LED (7-46) lights when voltage is 8.4V or less.
- ° Warning signal
  LED (7-46) flashes in the following cases:

  Forward-reverse selector is set to "R"
  Variable shutter lever is in the range from the dot (between "S" and "2" (half stop down) to "CLOSE".
  Over exposure is being copensated (Fractional exposure lever is not set to "O".)
  The footage counter is approaching 15m.

B. Inspection
When the battery checker/warning signal is abnormal, check A-block (7-42) to see if the rated voltage is applied to it first, and then check LED (7-46) for condition as described below:

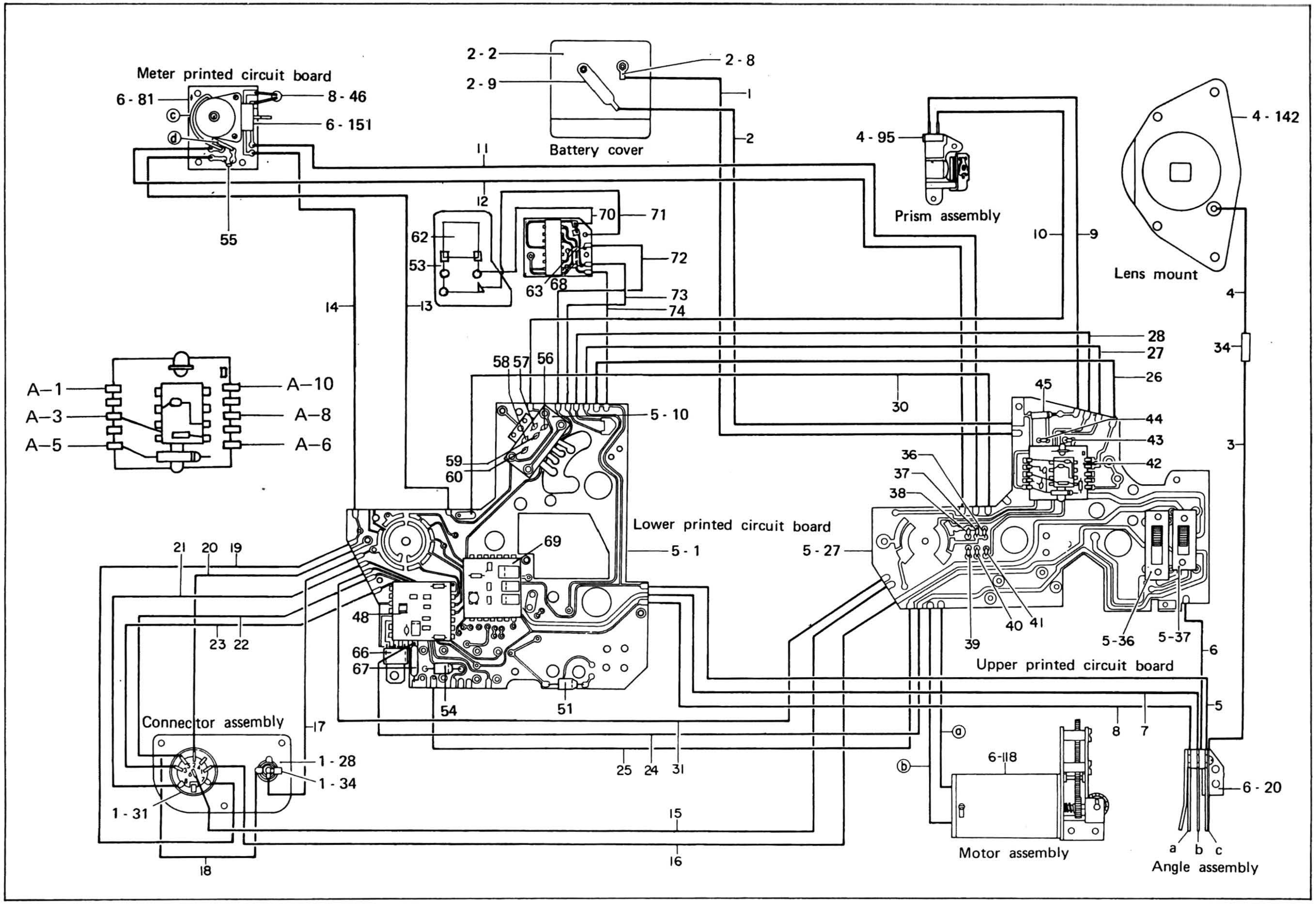
(1) A-block (7-42)

(i) Normal
When A-circuit operates normally, voltages across the camera body and individual terminals will be as follows:

(a) At low filming speed (1, 12, 18 or 24 F/S)

Between	Shutter release button depressed in a half way	Shutter release button fully depressed	Checking LED for flashing with shutter release button depressed in a half way	Checking battery checker with shutter release button depressed in a half way
Terminal A-1 and camera body	Same as source voltage (5.5V)	5.5V	5.5V	Same as source voltage
Terminal A-3 and camera body	5.5V	5.5V	5.5V	Same as source voltage
Terminal A-5 and camera body	0V	0V	0V	0V
Terminal A-8 and camera body	5.5V	5.5V	Changes in range from 1.5V to 4.2V	1.8V or less when LED lights
Terminal A-10 and camera body	5.5V	5.5V	5.5V	Same as source voltage

Fig. 31


Meter printed circuit board
6 - 81
8 - 46
6 - 151
ⓒ
ⓓ
2 - 2
2 - 9
2 - 8
Battery cover
4 - 95
Prism assembly
4 - 142
Lens mount
A—1
A—3
A—5
A—10
A—8
A—6
5 - 10
Lower printed circuit board
5 - 1
5 - 27
5-36
5-37
Upper printed circuit board
Connector assembly
1 - 28
1 - 34
1 - 31
ⓐ
ⓑ
6-118
Motor assembly
6 - 20
a
b
c
Angle assembly

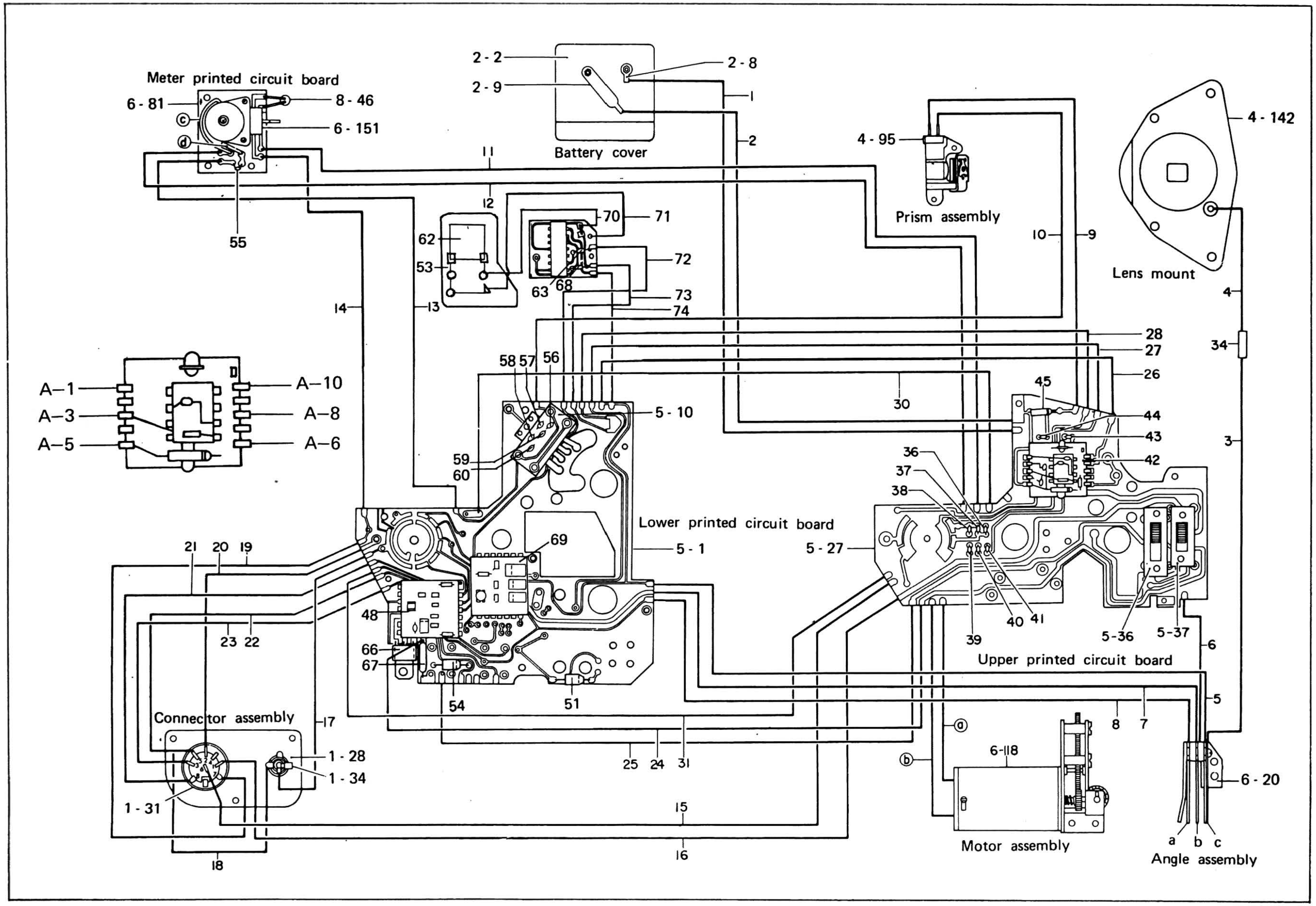
- Method to check battery checker voltage
  Cange source voltage, and measure voltage at the time when LED (7-46) lights. When the LED lights, voltage across terminal A-8 and camera body will be approximately 1.8V.
- Method to check LED for flashing
  With source voltage maintained constantly at 5.5V, short-circuit terminal A-6 of the A-circuit against the camera body (or terminal A-5). As the LED flashes, voltage across terminal A-8 and camera body changes in range from 1.5V to 4.2V.

(b) At high filming speed (36 or 72 F/S)

Between	Shutter release button depressed in a half way	Shutter release button fully depressed	Checking LED for flashing with shutter release button depressed in a half way	Checking battery checker with shutter release button depressed in a half way
Terminal A-1 and camera body	Same as source voltage (5.5V)	5.5V	5.5V	5.5V
Terminal A-2 and camera body	Approx. 3V	Approx. 4.1V		
Terminal A-3 and camera body	11V	11V	11V	Same as source voltage
Terminal A-4 and camera body	0V	0V	0V	0V
Terminal A-5 and camera body	0V	0V	0V	0V
Terminal A-8 and camera body	5.5V	5.5V	Changes in range from 1.5V to 4.2V	1.8V or less when LED lights
Terminal A-10 and camera body	5.5V	5.5V	5.5V	5.5V

- Method to check battery checker voltage
  Change high voltage side source voltage, and measure voltage at the time when LED (7-46) lights. When the LED lights, voltage across terminal A-8 and camera body will be approximately 1.8V.
- Method to check LED for flashing
  With source voltage maintained constantly at 5.5V to 11.0V, short-circuit terminals A-6 and A-4 of A-circuit against the camera body or terminal A-5. Then, voltage across terminal A-8 and camera body changes in range from 1.5V to 4.2V. Moreover, voltage across terminal D-1 of the LED and camera body is 5.5V.

Fig. 32


Meter printed circuit board
6 - 81
8 - 46
6 - 151
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2 - 2
2 - 9
2 - 8
Battery cover
4 - 95
Prism assembly
4 - 142
Lens mount
5 - 10
A–1
A–3
A–5
A–10
A–8
A–6
Lower printed circuit board
5 - 1
5 - 27
5-36
5-37
Upper printed circuit board
Connector assembly
1 - 28
1 - 34
1 - 31
ⓐ
ⓑ
6-118
6 - 20
Motor assembly
a
b
c
Angle assembly

(ii) Abnormal

When the shutter release button is depressed in a half way and the battery checker/warning signal do not operate normally, check:

- A-block (7-42) for defectibeness or improper spldering
- Copper foil patterns on upper and lower printed circuit boards (5-1 and 5-27)
- Lead wires (7-11 and 7-13) for breaking or improper soldering
- LED (7-46) for condition

When the shutter release button is depressed fully and LED does not go out, check:

- C-block (7-47) for defectiveness
- Relay (7-61) for faulty contact
- Resistor (7-63) for defectiveness or improper soldering
- Diode (7-46) for defectiveness or improper soldering
- Lead wire for breaking or improper soldering

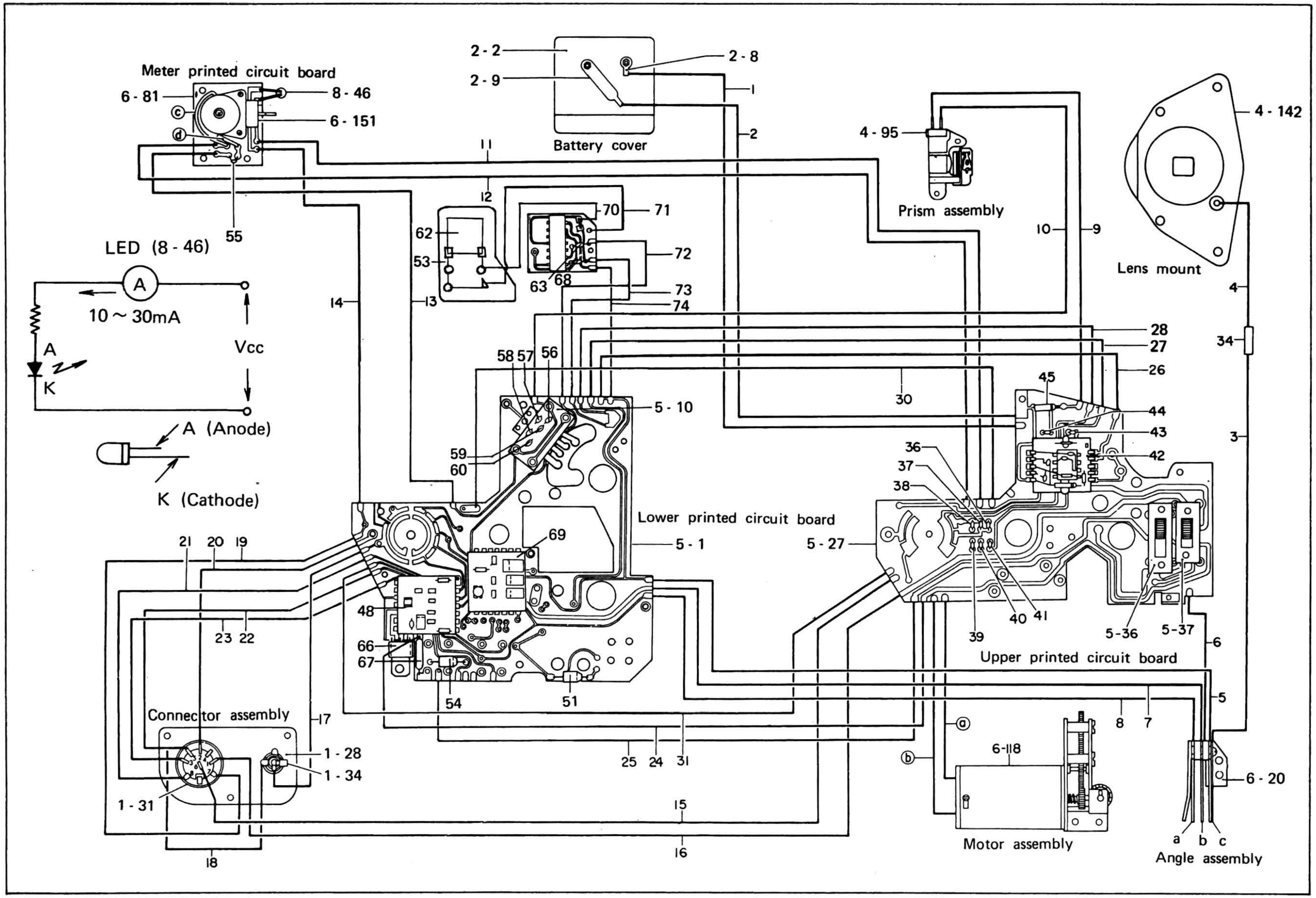
When the shutter release button is depressed in a half way, voltage across terminal A-2 and camera body should be approximately 3V.
When the shutter release button is depressed fully and this voltage changes to approximately 4.1V, the C-circuit and thereafter are all normal.
In this checking, if the battery checker does not stop, A-circuit is defective.

(2) LED (7-46)

a. Connect a protecting resistor to the LED in series.

b. Apply 10 to 30 mA to the LED. If the LED lights, it is normal.

Fig. 33


Meter printed circuit board
6 - 81
8 - 46
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2 - 2
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2 - 8
Battery cover
1
2
11
12
4 - 95
Prism assembly
10
9
4 - 142
Lens mount
4
34
3
LED (8 - 46)
A
10 ~ 30mA
Vcc
A
K
A (Anode)
K (Cathode)
62
53
13
14
70
71
72
63
68
73
74
28
27
26
58
57
56
5 - 10
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44
43
42
36
37
38
59
60
Lower printed circuit board
5 - 1
5 - 27
69
21
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48
66
67
54
51
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40
41
5-36
5-37
6
Upper printed circuit board
Connector assembly
17
1 - 28
1 - 34
1 - 31
18
25
24
31
15
16
8
7
5
ⓐ
ⓑ
6-118
Motor assembly
6 - 20
a
b
c
Angle assembly

14.4 C-block (7-47) (Drive compensating circuit)

The C-block is used to generate voltage from its terminal to compensate driving of the exposure meter as soon as the motor starts.

(i) Normal (When voltage applied to the camera is 5.5V)
When this circuit is normal, voltages shown in the following table will be measured at the individual terminals of C-circuit at low filming speed:

Between	With shutter release button depressed in a half way	With shutter release button fully depressed
Terminal C-1 and camera body	Approx. 5.5V	OV
Terminal C-2 and camera body	Approx. 5.5V	5.5
Terminal C-3 and camera body	OV	OV
Terminal C-4 and camera body	5.3V	0.2V

(ii) Abnormal
When this circuit is abnormal, check:

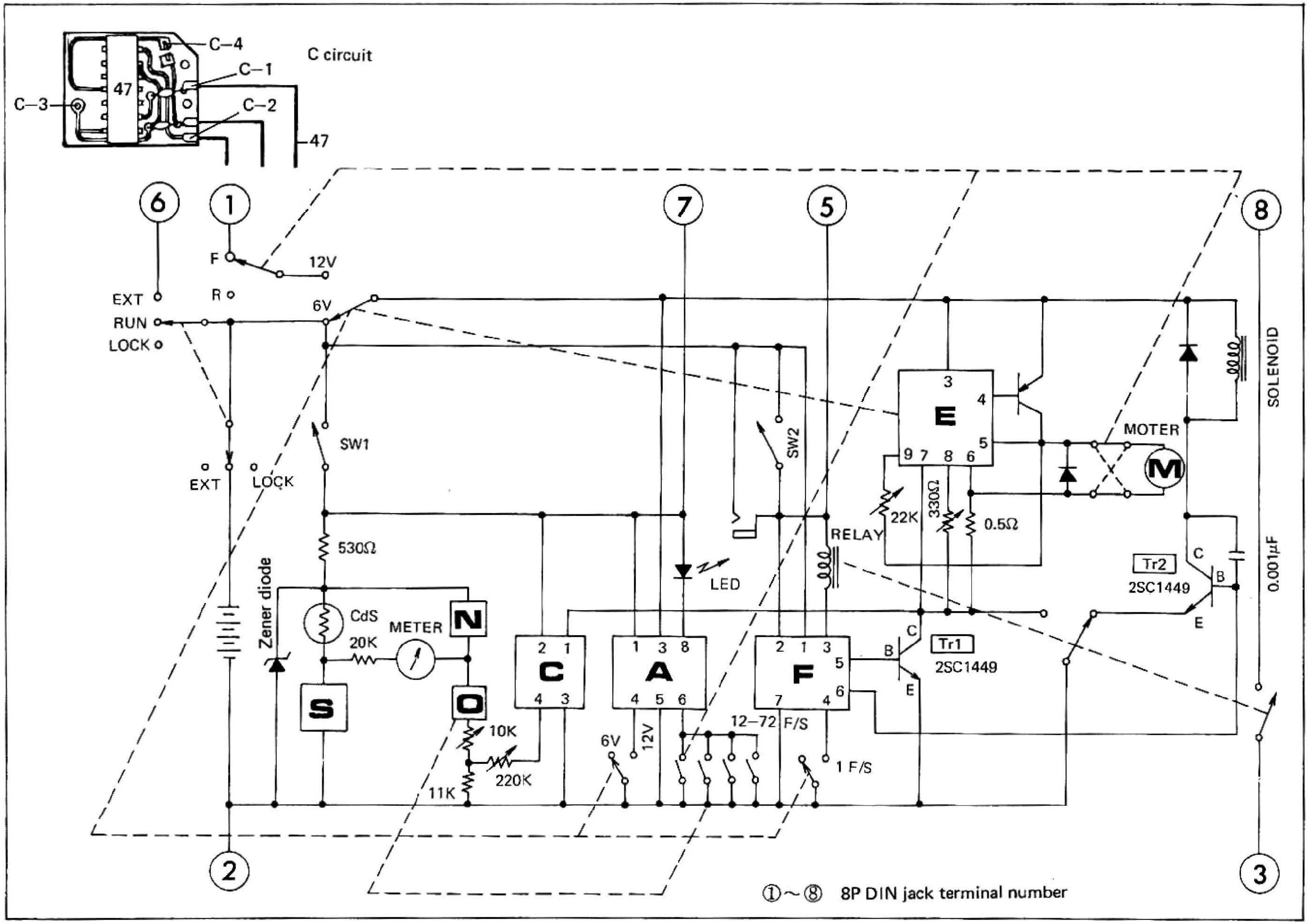
- ◦ C-block - IC (7-47) for defectiveness or C-block for imporper soldering
- ◦ Relay (7-61) for operating condition or improper soldering
- ◦ Resistor (7-63) for defectiveness or improper soldering

14.5 Stay-open preventing circuit ..... Refer to the wiring diagram.

This electronic circuit operates in the following sequence to prevent the sector to open in a half way and to stop the pulse shaft in the rated position.

1. Shutter release button switch SW2 is turned off.
2. Relay operates. Voltage across E-7 and camera body changes from zero volt to 5.5V (Voltage of battery).
3. Tr1 and F-circuit start to operate, causing Trs to operate, and thus, the solenoid is attracted for a preset time.
4. With the solenoid lever, the turning stopper pin is caused to stop.

Fig. 34



①～⑧ 8P DIN jack terminal number

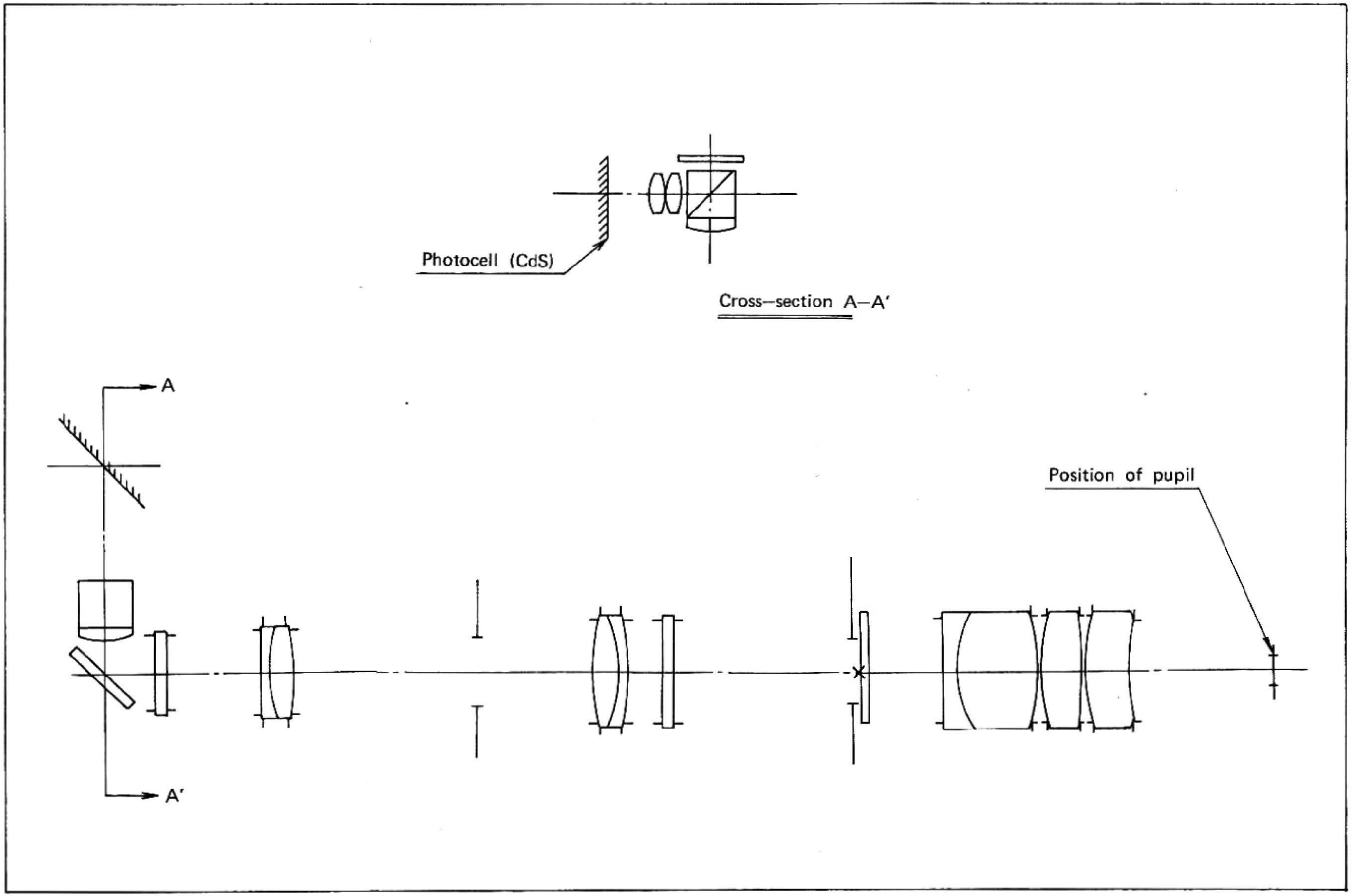


Fig. 35

Fig. 36

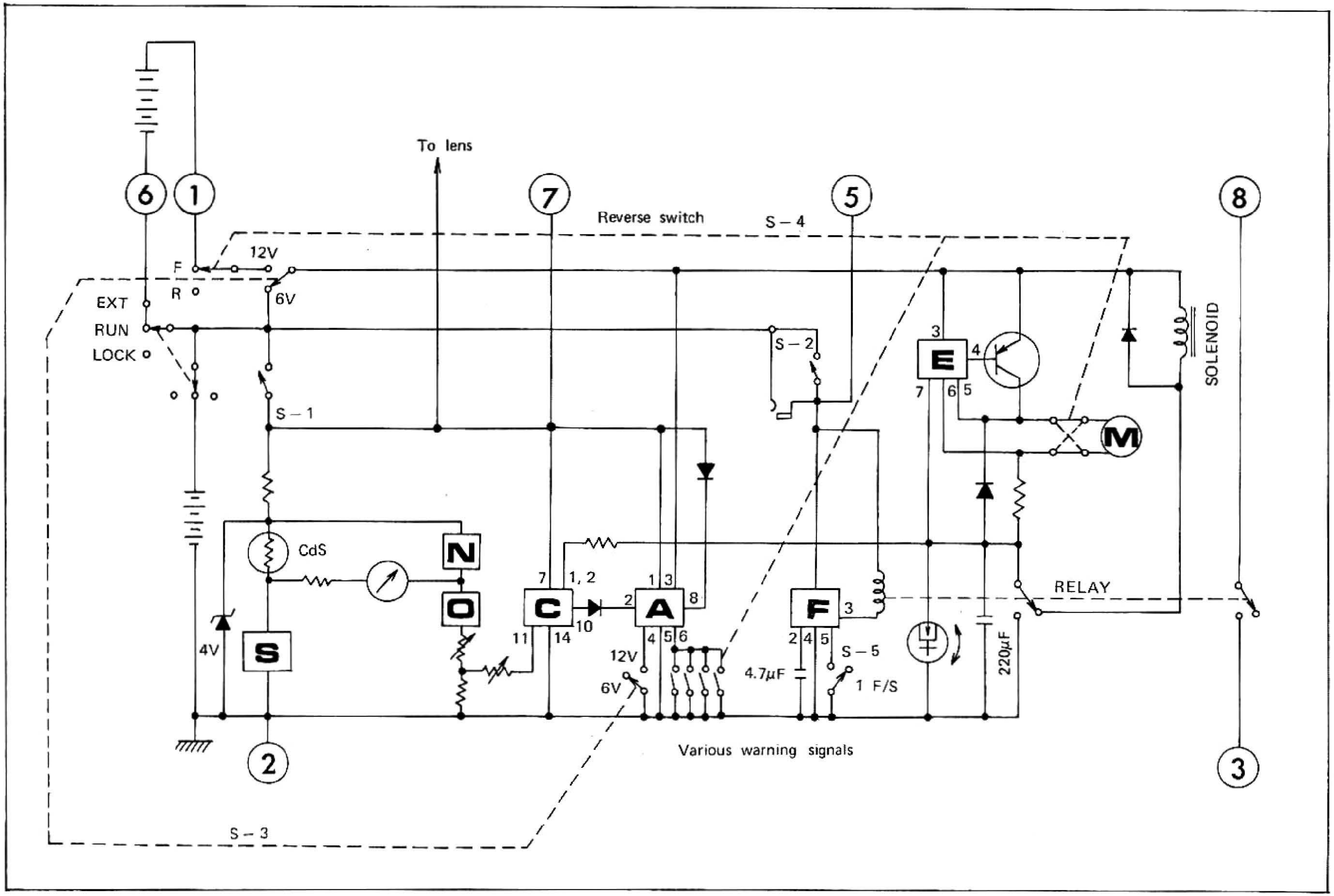
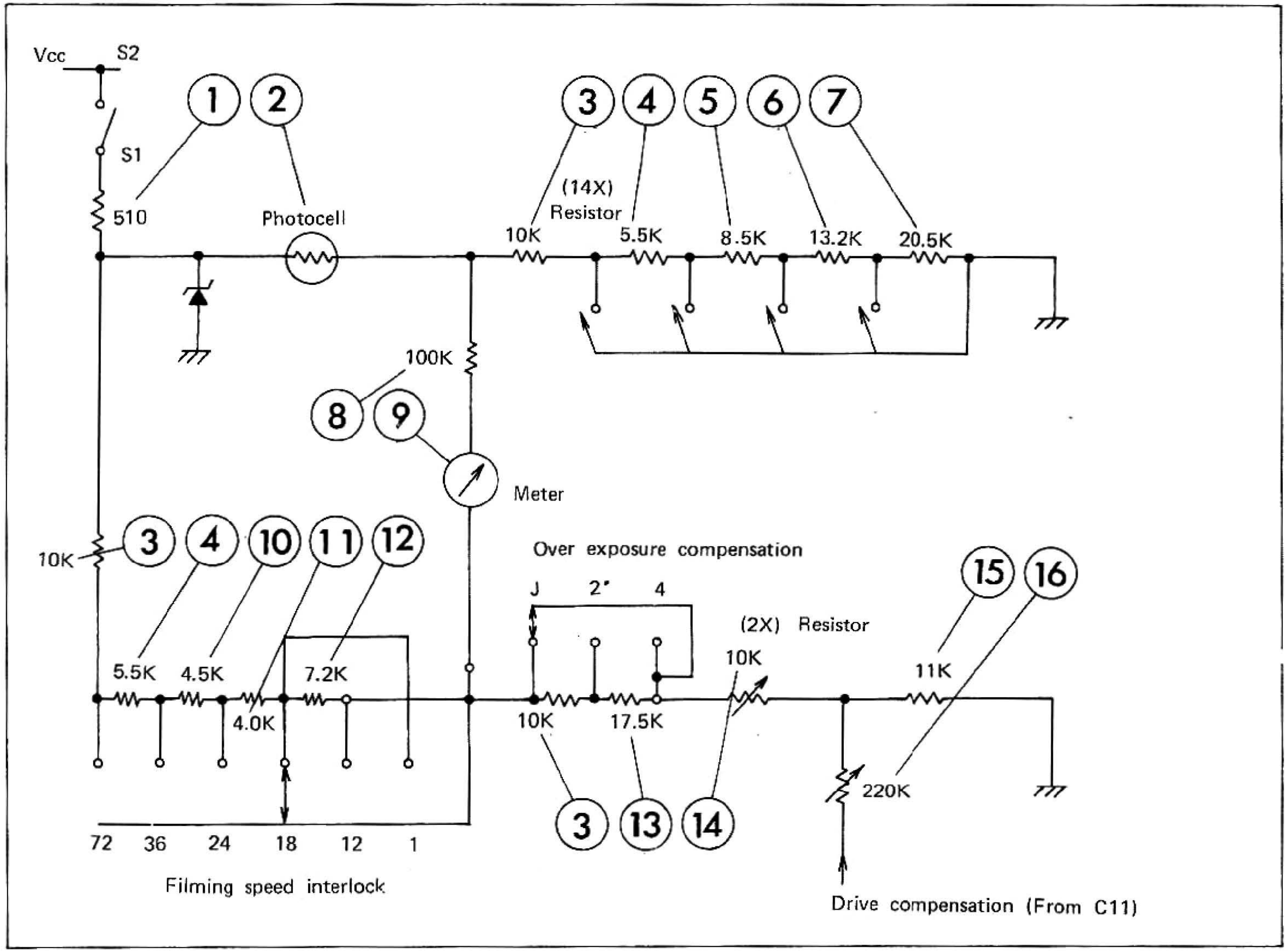

To lens
⑥
①
⑦
⑤
⑧
Reverse switch
S – 4
12V
F
R
6V
EXT
RUN
LOCK
S – 2
S – 1
SOLENOID
E
3
4
7
6
5
M
CdS
N
O
S
4V
C
7
1, 2
11
14
10
A
2
1
3
8
4
5
6
12V
6V
F
3
2
4
5
S – 5
1 F/S
4.7μF
220μF
RELAY
Various warning signals
②
③
S – 3

Fig. 37


Vcc
S2
S1
510
①
②
Photocell
③
④
⑤
⑥
⑦
(14X)
Resistor
10K
5.5K
8.5K
13.2K
20.5K
100K
⑧
⑨
Meter
10K
③
④
⑩
⑪
⑫
5.5K
4.5K
4.0K
7.2K
72
36
24
18
12
1
Filming speed interlock
Over exposure compensation
J
2'
4
(2X) Resistor
10K
10K
17.5K
③
⑬
⑭
⑮
⑯
11K
220K
Drive compensation (From C11)

IV INSPECTION

INSPECTION POINT	METHOD OF INSPECTION	REMARKS
1. EE SYSTEM	Before inspecting the camera, check batteries for rated voltage.	
1.1 Meter needle movement	Set the LOCK-RUN selector to "RUN", face the camera to a bright object and dark object alternately while depressing the shutter release button, and see if the meter needle moves accordingly and smoothly.	
1.2 Meter needle indication	(1) Load the camera with a cartridge (ASA 25), set the LOCK-RUN selector to "RUN", and depress the shutter release button. (2) Face the camera to a constant light source, and see if indication by the meter needle is within ±1 stop. NOTE: Constant light source should be f/4 or f/5.6.	
1.3 Meter needle operation for each filming speed	Under the condition described in 1.2 above, switch over filming speed from 18 F/S to 24 F/S or to 12 F/S, and see if deflection of the needle is within about 1/2 stop. Next, switch over filming speed from 18 F/S to 36 and from 36 F/S to 72 F/S and see if deflection of the needle is within about 1 stop. NOTE: Constant light source should be f/4 or f/5.6.	
2. FILM ADVANCING		
2.1 Operation of motor	(1) Depress the shutter release button, and see if the motor operates smoothly. (In this inspection, insure that the meter needle operates before the motor does.) Insure that motor operating sound is normal.	

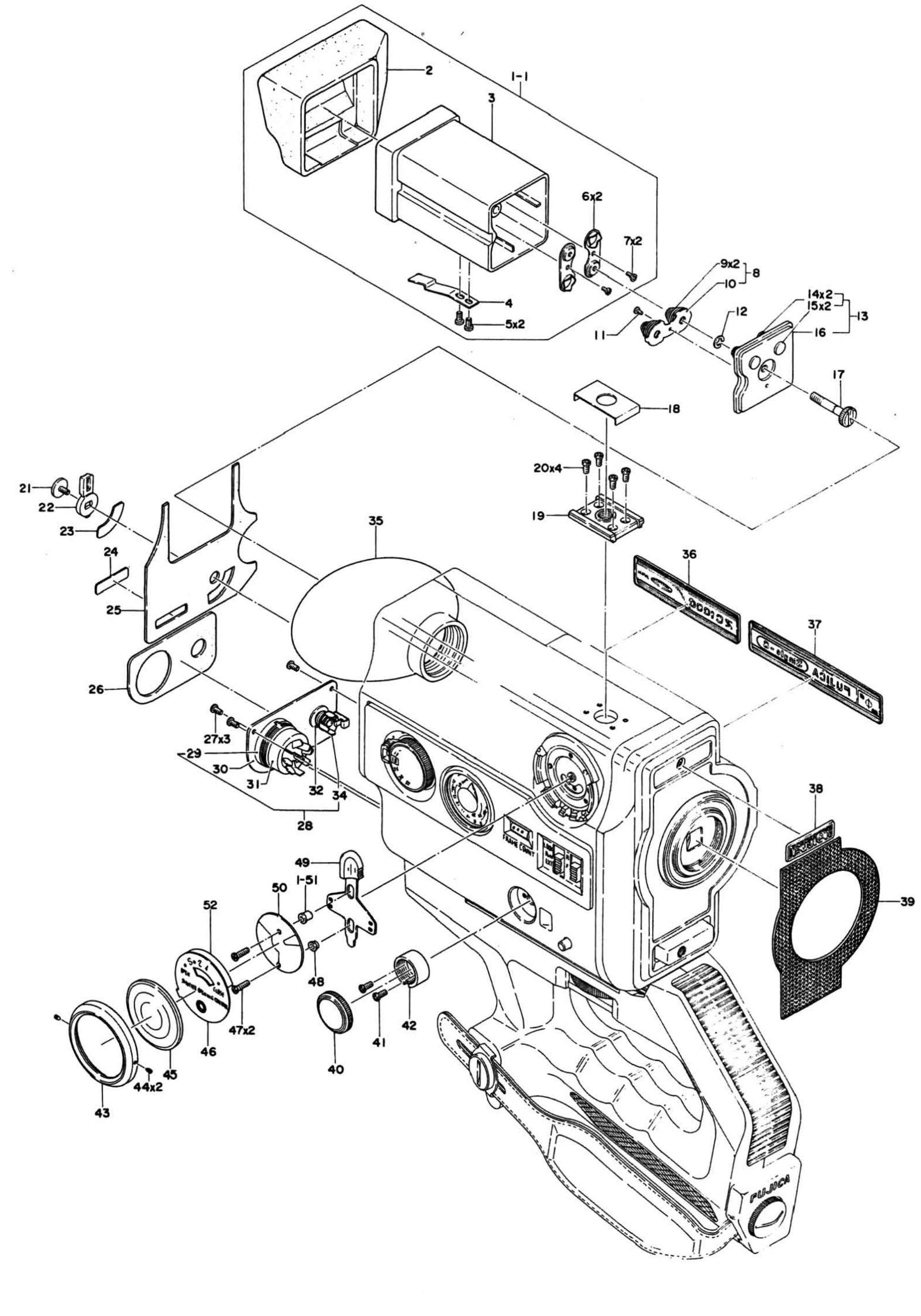
INSPECTION POINT	METHOD OF INSPECTION	REMARKS
	(2) Set the F-R selector to "R", and insure that the motor operates normally at filming speed 1 F/S, 12 F/S, 18 F/S or 24 F/S but does not operate at 36 F/S or 72 F/S. (3) Install the grip loaded with four 1.5V penlight batteries on the camera, depress the shutter release button, and see if the motor operates correctly at each filming speed. (4) Load a cartridge, depress the shutter release button, and see if the film is advanced through film chamber window. (For this inspection, the film may be advanced approximately one meter.) Be sure to check both forward and reverse film feedings.	
2.2 Remote control	Set the LOCK-RUN selector to "RUN", connect a remote control switch to the camera, and see if the camera operates correctly.	
3. FOOTAGE/FRAME COUNTER		
3.1 Footage counter	(1) Without loading cartridge, operate the camera and watch the footage counter. (A) The footage counter should operate smoothly up to 3 m (10 ft). (B) The footage counter should return to "S" smoothly when the film chamber lock is turned to "O". (2) Operate the footage counter up to 15 m (50 ft) and check if for correct return.	
3.2 Digital frame counter	Operate the variable shutter lever from OPEN to CLOSE side, and see if the digital frame counter counts "1". Return the variable shutter lever to OPEN side, and see if the digital frame counter returns to "O".	

INSECTION POINT	METHOD OF INSPECTION	REMARKS
4. GENERAL OPERATIONS		
4.1 Adjustment of visibility	See if the visibility adjust ring turns smoothly. and is locked securely by the lock knob.	
4.2 LOCK-RUN selector	Set the LOCK-RUN selector to "LOCK", depress the shutter release button and insure that the motor does not operate.	
4.3 Variable shutter lever	Release click stop of the variable shutter lever, move the lever from OPEN to CLOSE, and see if it moves smoothly.	
4.4 Warning signal	(A) Insure that the warning signal (LED) which can be seen in the viewfinder flashes in the following cases: (a) Forward-reverse selector is set to "R". (b) Variable shutter lever is in a position other than "OPEN". (c) Fractional exposure lever is not set to "O". (d) The footage counter is approaching 15 m. (B) Insure that the warning signal (LED) lights when voltage of battery drops below the rated level.	
5. APPEARANCE	Check the camera body and name plates and insure that no scratch or dirt on them. Look into the viewfinder and insure that no dust or contamination is seen.	
6. SETTING PARTS OF CAMERA AFTER COMPLETING INSPECTION	(1) Frames-per-second speed control: 18 (2) Fractional exposure lever: O (3) Forward-reverse selector: F (4) LOCK-RUN selector: LOCK	

INSPECTION POINT	METHOD OF INSPECTION	REMARKS
	(5) Variable shutter lever: OPEN (6) Footage counter: S (7) Digital frame counter: O (8) Eyepiece ring: To camera side.	

V PART LIST

Fig. 1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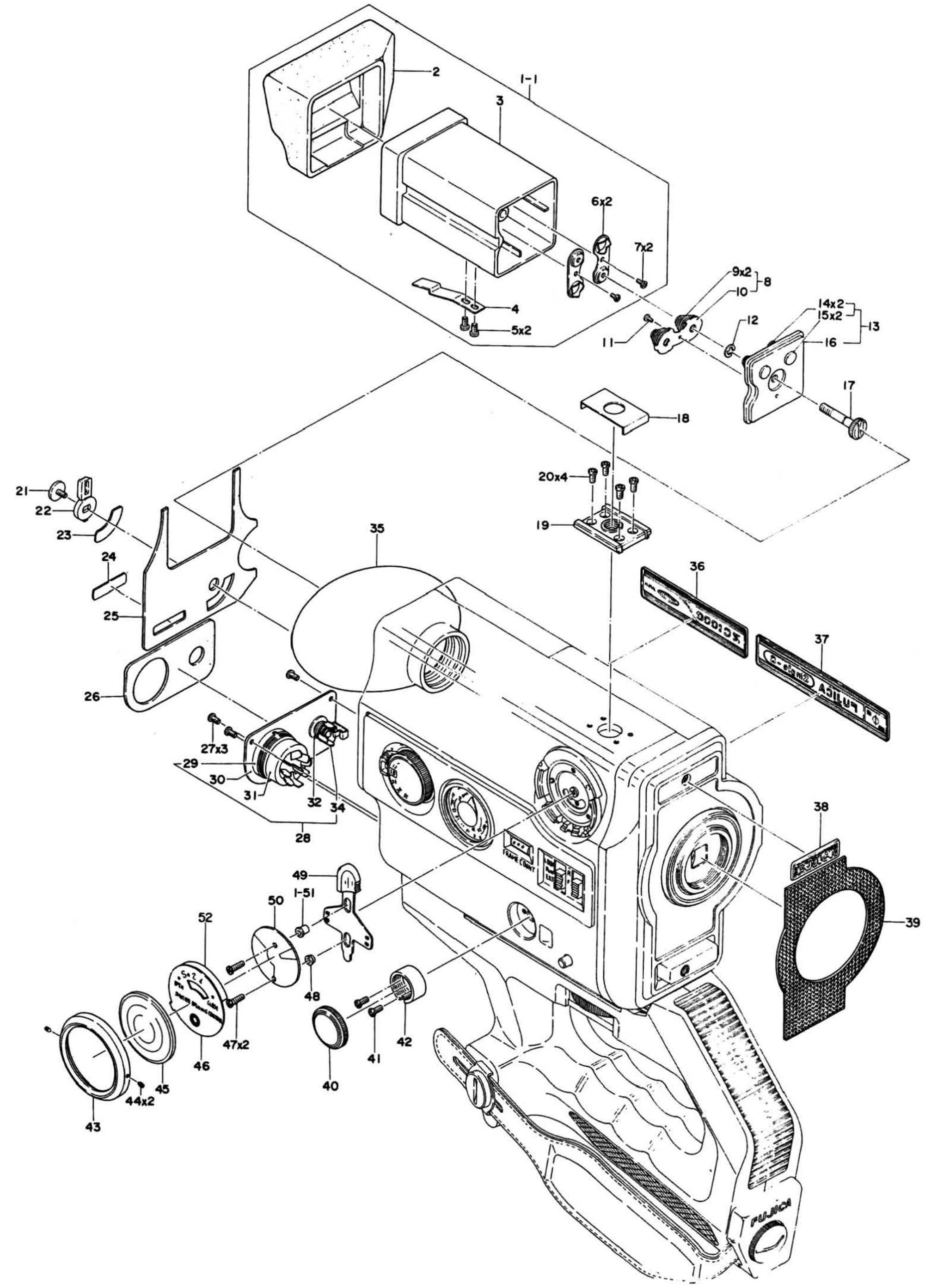
15x2
20x4
27x3
1-51
47x2
44x2
FUJICA

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
1- 1	12A359620	Body battery case assembly	1-2, 1-3, 1-4, 1-5, 1-6$^{\times 2}$, 1-7$^{\times 2}$	1	
1- 2	51B356570	Pad		1	
1- 3	12A359600	Battery case assembly		1	
1- 4	50B354580	Leaf spring		1	
1- 5	113M200301N	Screw		2	
1- 6	109B14550	Contact piece		2	
1- 7	113M170301N	Screw		2	
1- 8	109A9920	Terminal spring assembly		1	
1-11	113M170301N	Screw		1	
1-12	191M020T	E-clip		1	
1-13	57A359590	Cap aseembly	1-14$^{\times 2}$, 1-15$^{\times 2}$, 1-16	1	
1-17	53B354560	Screw		1	
1-18	58B355840	Cover plate		1	
1-19	41B355830	Accessory shoe		1	
1-20	110M230401S	Screw		4	
1-21	53B42721	Screw		1	
1-22	16B42710	Lever		1	
1-23	58B356060	Mark plate		1	
1-24	301M04174B	Number plate		1	
1-25	59B355910	Leather		1	
1-26	59B355920	Leather		1	
1-27	111M200301S	Screw		3	

Fig. 1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9x2
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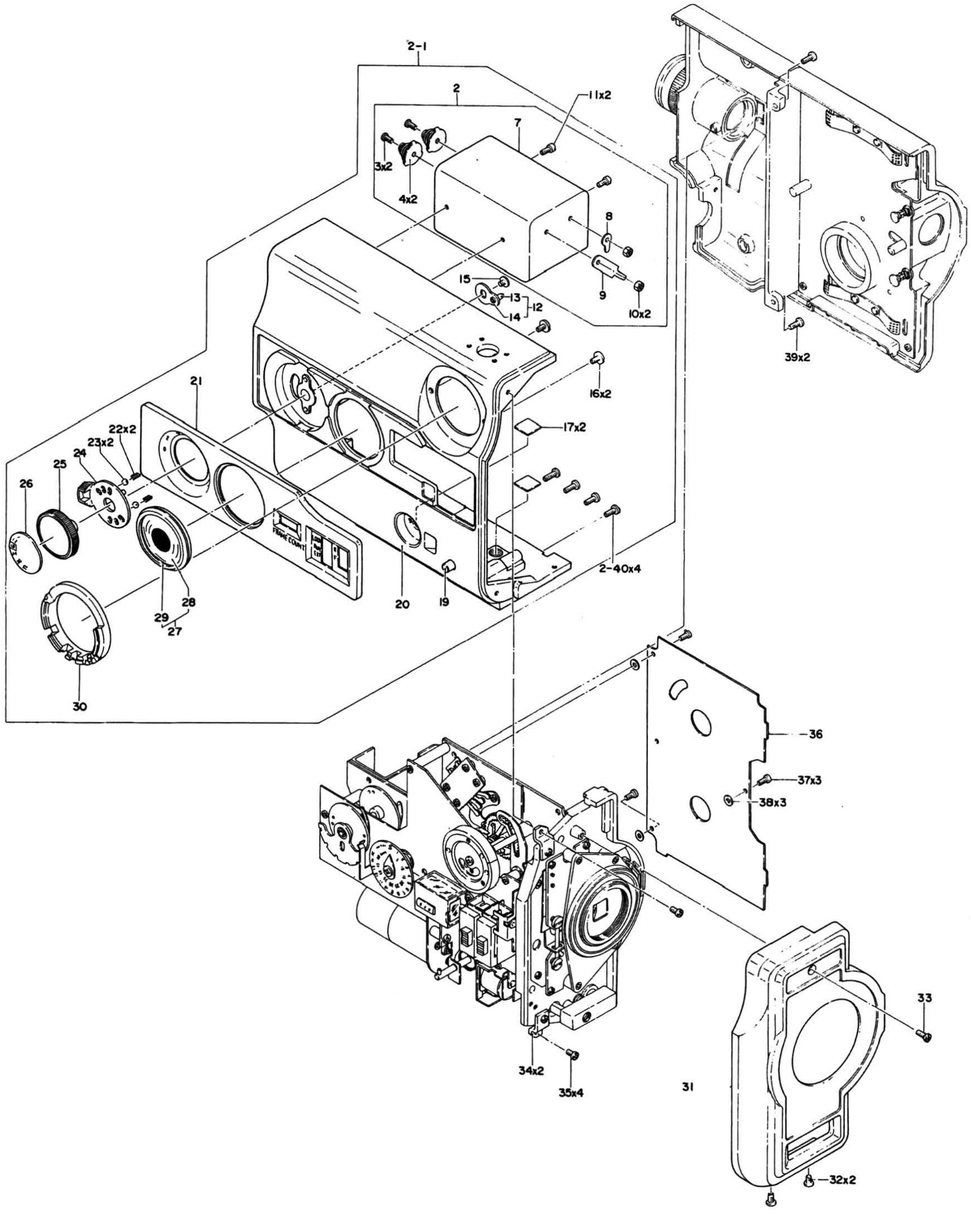
15x2
5x2
20x4
27x3
1-51
47x2
44x2
FUJICA

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
1-28	112A358840	Connector assembly	1-30, 1-31, 1-32, 1-34	1	
1-30	46B355720	Base plate		1	
1-31	112K15240	DIN 8p jack		1	
1-32	55B355730	Washer		1	
1-34	112B23460	Remote control jack		1	
1-35	KA1511A	Eyecup		1	
1-36	58B352470	Name plate		1	
1-37	58B353530	Name plate		1	
1-38	58B351550	Name plate		1	
1-39	59B355930	Leather		1	
1-40	53B327940	Cap		1	
1-41	110M 200301N	Screw		2	
1-42	25B352600	Synchro-coupler		1	
1-43	84B352810	Window frame		1	
1-44	120M 170201S	Screw		2	
1-45	6B352800	Window glass		1	
1-46	58B353470	Dial plate		1	
1-47	110M 200701N	Screw		2	
1-48	42B353410	Bushing		1	
1-49	16A358820	Lever assembly		1	
1-50	58B353480	Disc		1	
1-51	42B353400	Bushing		1	
1-52	27B350760	Moquette		1	

Fig. 2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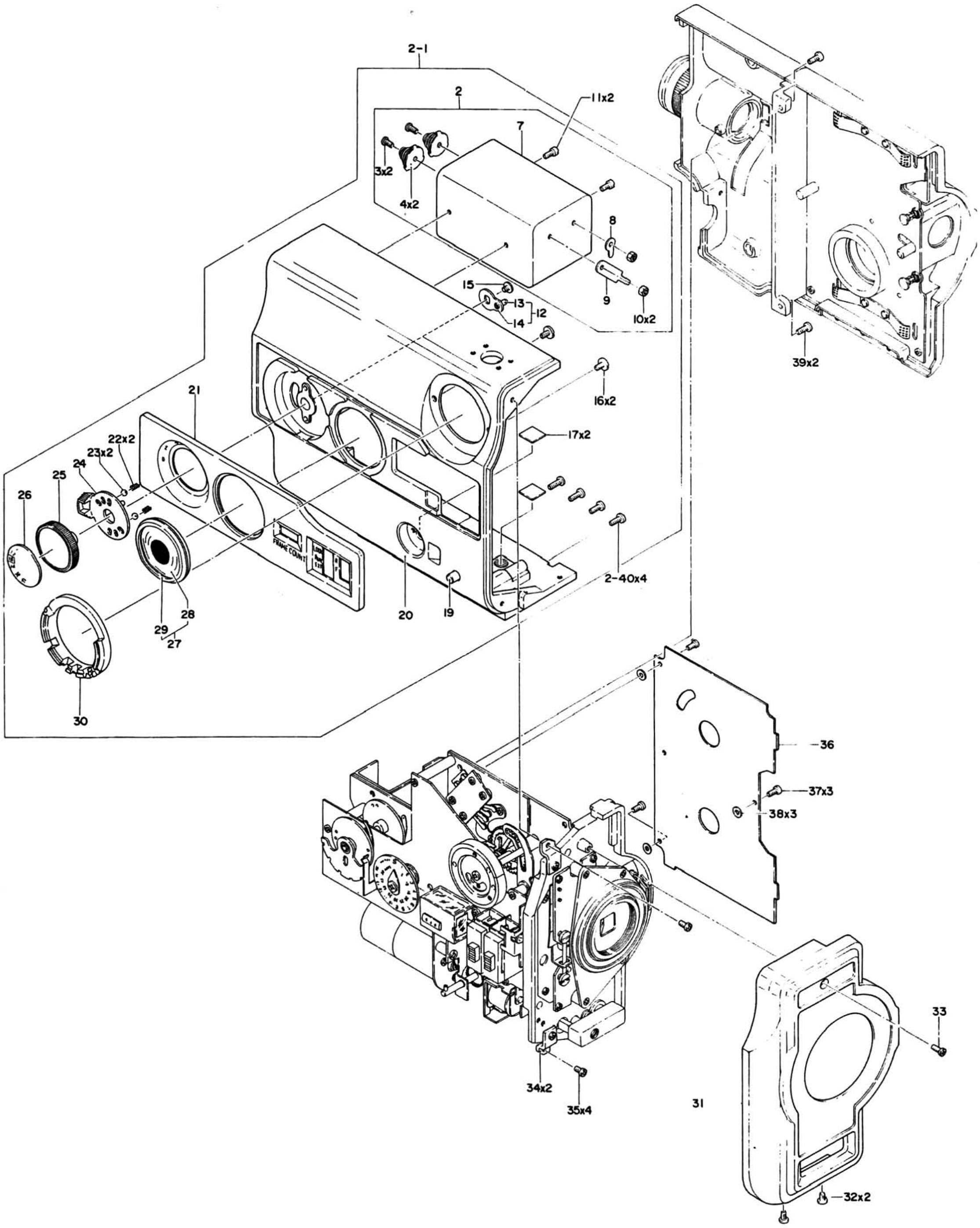
26
2-40x4
20
19
28
29
27
30
39x2
36
37x3
38x3
33
34x2
35x4
31
32x2

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
2- 1	10A358850	Body case assembly	2-2, 2-12, 2-15, 2-16$^{\times 2}$, 2-17$^{\times 2}$, 2-18, 2-21, 2-22$^{\times 2}$, 2-23$^{\times 2}$, 2-24, 2-25, 2-26, 2-27, 2-30, 2-11$^{\times 2}$	1	
2- 2	12A359630	Battery outer case assembly	2-3$^{\times 2}$, 2-4$^{\times 2}$, 2-7, 2-8, 2-9, 2-10$^{\times 2}$	1	
2- 3	110M 170351N	Screw		2	
2- 4	109A9910	Terminal spring assembly		2	
2- 7	12B354520	Outer case		1	
2- 8	108B356620	Lug		1	
2- 9	108B354840	Lug		1	
2-10	150M0171N	Nut		2	
2-11	53B354590	Screw		2	
2-12	47A358830	Rotary plate assembly	2-13, 2-14	1	
2-15	53B23580	Screw		1	
2-16	110M 200301N	Screw		2	
2-17	85B355980	Light shielding plate		2	
2-21	58B353290	Plate		1	
2-22	50B355970	Spring		2	
2-23	200M20	Steel ball		2	
2-24	16B354630	Fractional Exposure Control		1	
2-25	16B354640	Films-per-second speed control		1	
2-26	58B354860	Dial plate		1	

Fig. 2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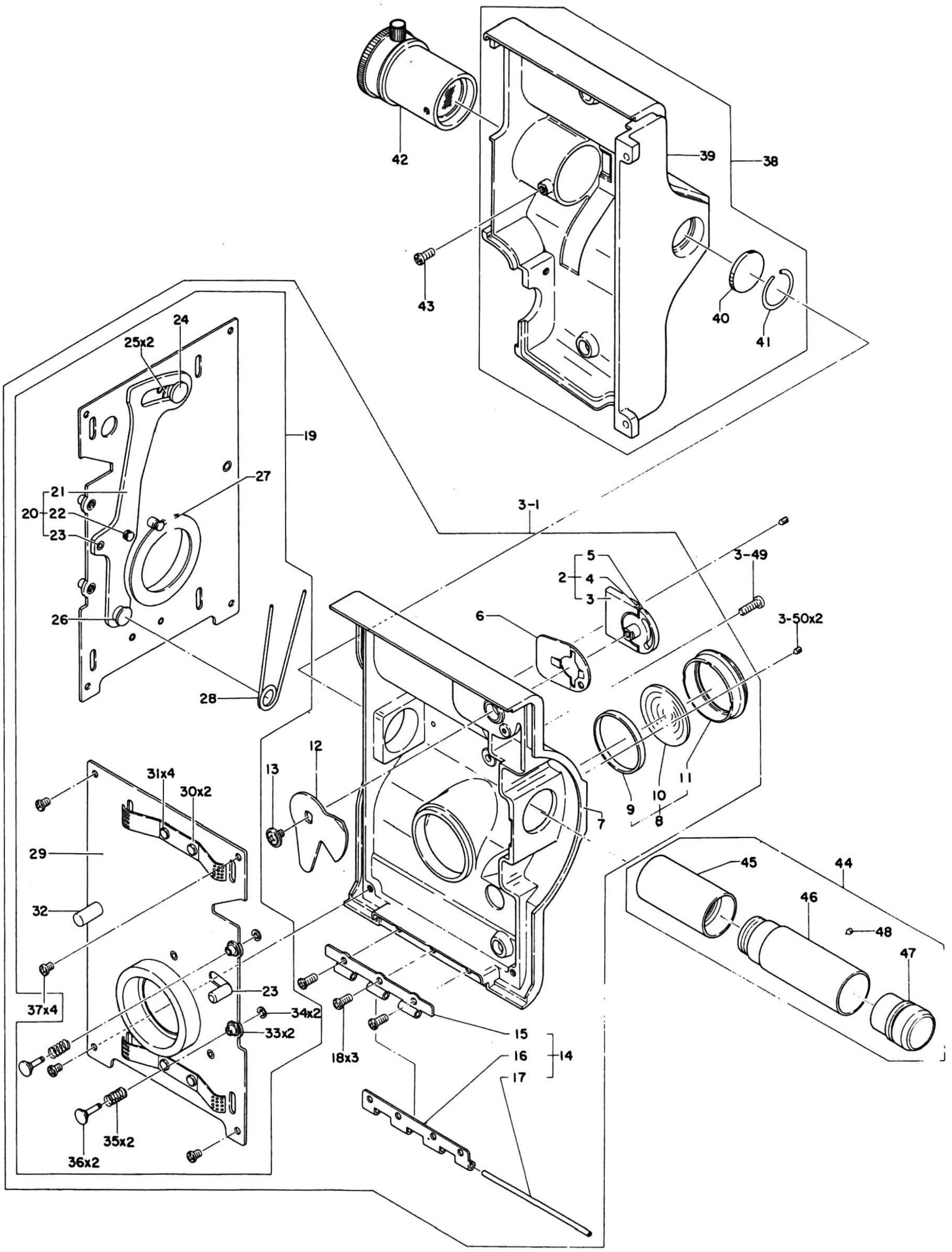
12
14
39x2
16x2
21
17x2
22x2
23x2
24
25
26
FRAME COUNT
2-40x4
28
29
27
20
19
30
36
37x3
38x3
33
34x2
35x4
31
32x2

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
2-27	84A358900	Window assembly	2-28, 2-29	1	
2-30	23B352820	Locking seat		1	
2-31	10B351510	Front cover		1	
2-32	111M 200401S	Screw		2	
2-33	110M 200501S	Screw		1	
2-34	85B356730	Auxiliary plate		2	
2-35	110M 200401S	Screw		4	
2-36	58B350570	Plate		1	
2-37	110M200251G	Screw		3	
2-38	55B97820	Washer		3	
2-39	110M 200501S	Screw		2	
2-40	110M 200401S	Screw		4	
2-41	27B352830	Moquette		1	

Fig. 3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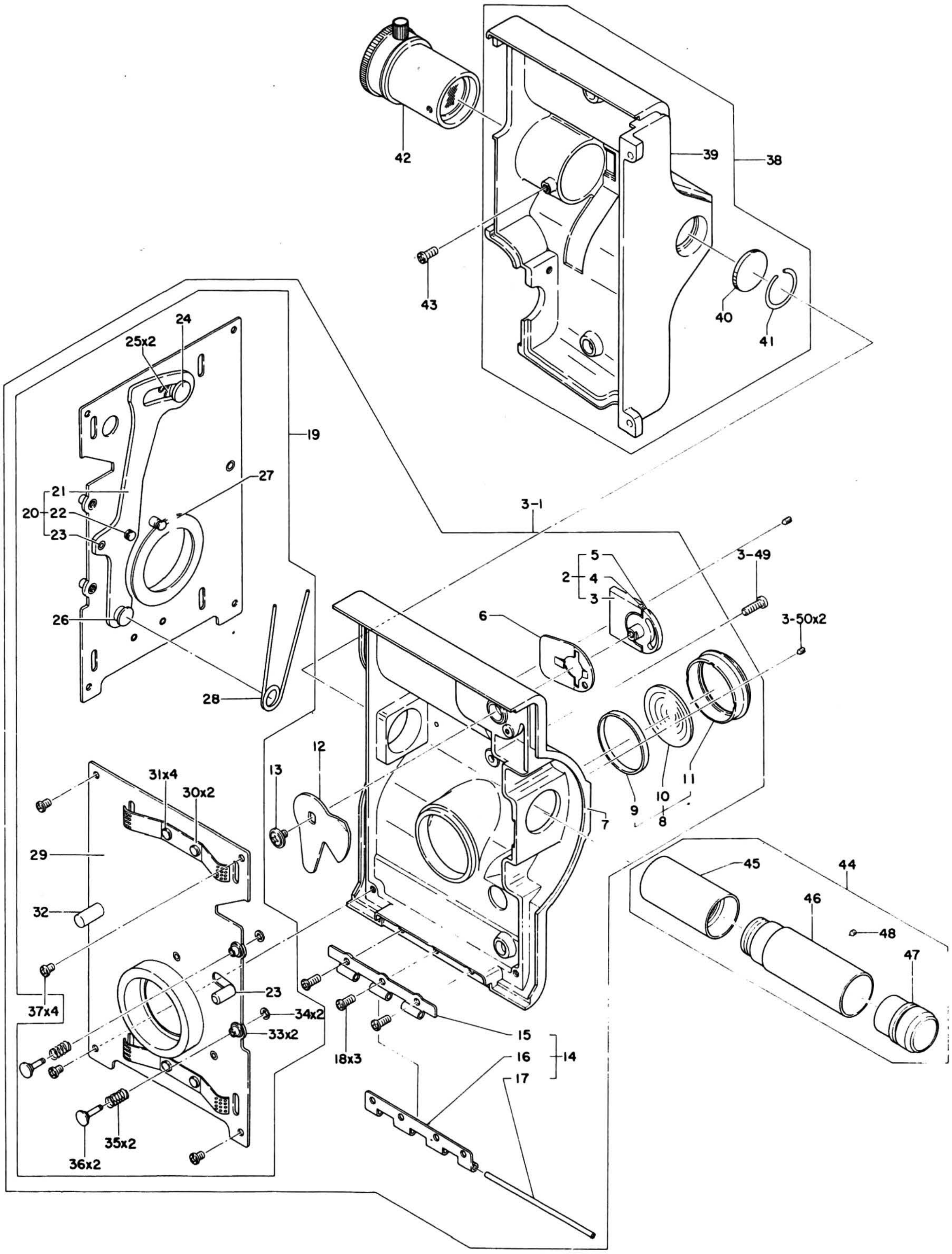
33x2
18x3
35x2
36x2

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
3- 1	302A359580	Film chamber door assembly	3-2, 3-6, 3-7, 3-12, 3-13, 3-14, 3-18, 3-19	1	
3- 2	16A13820	Film chamber lock assembly	3-3, 3-4, 3-5	1	
3- 6	50B10570	Leaf spring		1	
3- 8	84A9960	Window assembly	3-9, 3-10, 3-11	1	
3-12	47B356520	Lever		1	
3-13	53B356680	Screw		1	
3-14	19A359560	Hinge assembly	3-15, 3-16, 3-17	1	
3-18	110M 200351S	Screw		3	
3-19	46A359570	Base plate assembly	3-20, 3-24, 3-25$^{\times 2}$, 3-26, 3-27, 3-28, 3-29, 3-30$^{\times 2}$, 3-31$^{\times 4}$, 3-32, 3-33$^{\times 2}$, 3-34$^{\times 2}$, 3-35$^{\times 2}$, 3-36$^{\times 2}$, 3-37$^{\times 4}$		
3-34	191M008T	E-clip		2	
3-35	50B10650	Spring		2	
3-36	17B353620	Pin		2	
3-37	110M 200401S	Screw		4	
3-38	10A358800	Side cover assembly	3-39, 3-40, 3-41, 3-42, 3-43	1	
3-39	10B352500	Side cover		1	
3-40	6B603310	Glass		1	
3-41	50B355950	Clip		1	
3-42	21A358790	Eyepiece assembly		1	
3-43	110M 200501S	Screw		1	
3-44	21A359530	Viewfinder assembly	3-45, 3-46, 3-47, 3-48	1	

Fig. 3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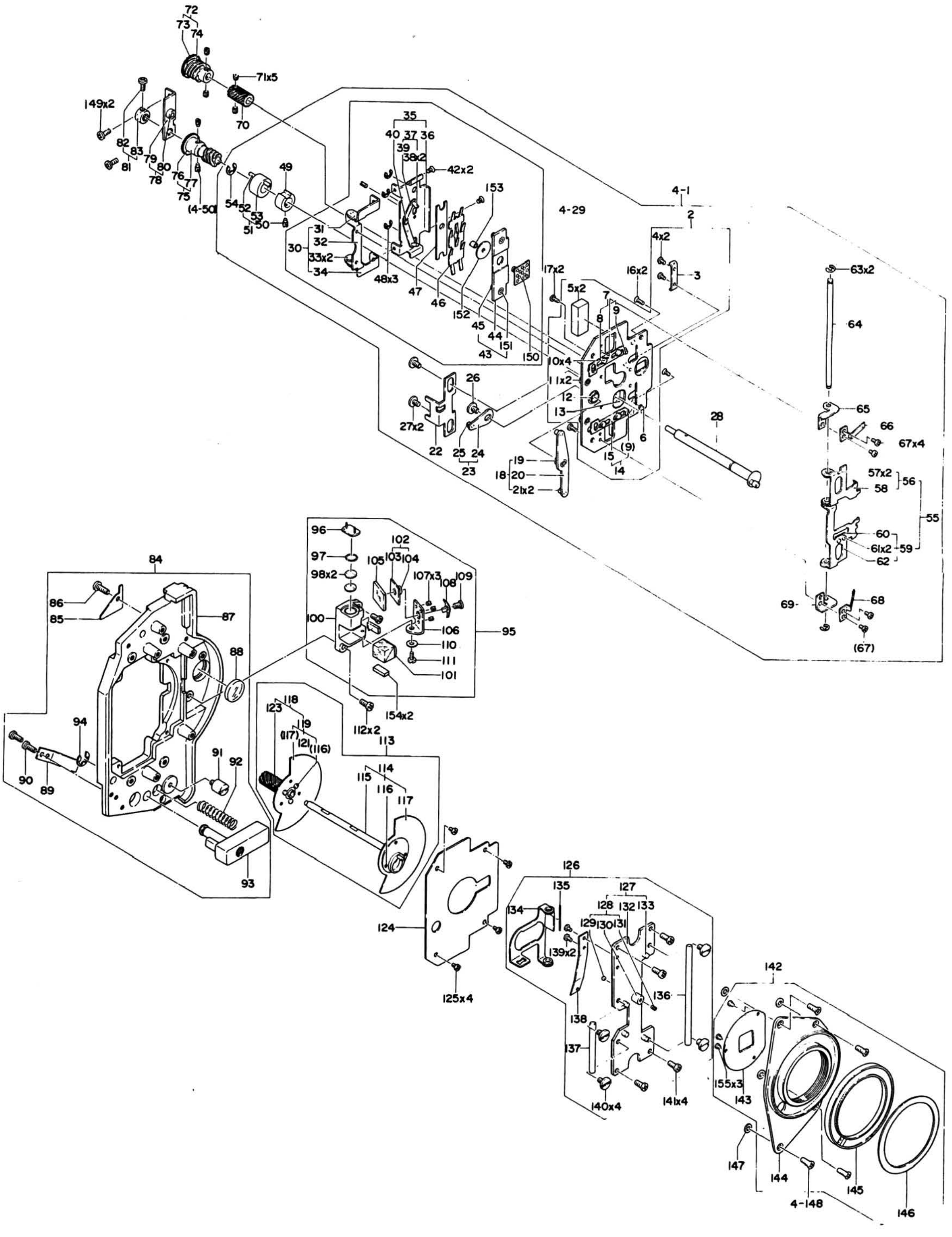
18x3
35x2
36x2

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
3-45	21A359520	Lens assembly		1	
3-46	21B353660	Lens barrel		1	
3-47	21A359510	Adjust lens assembly		1	
3-48	120M 170151S	Screw		1	
3-49	110M 200401B	Screw		1	
3-50	120M 200253S	Screw		2	

Fig. 4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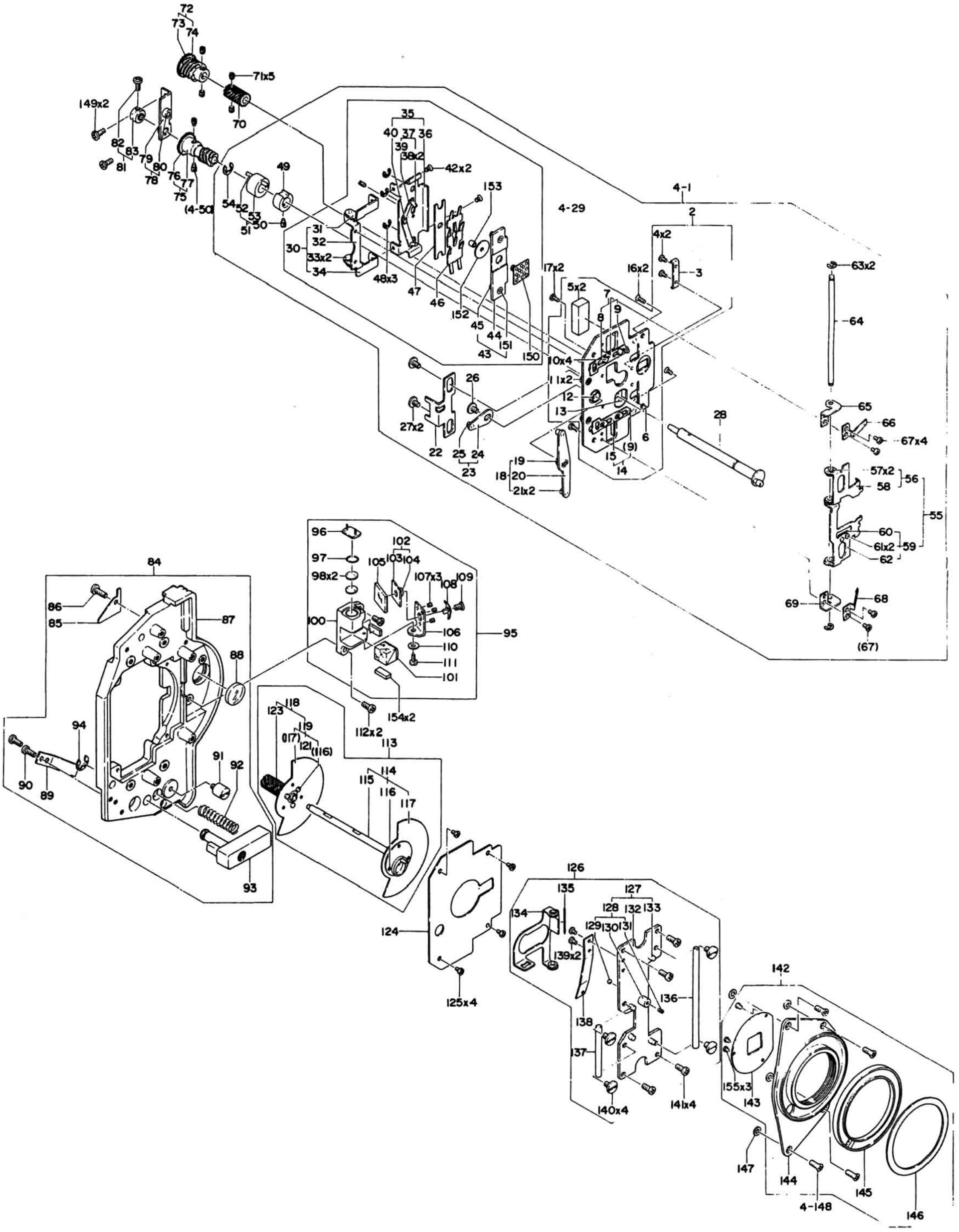
(67)
98x2
107x3
154x2
(117)
(116)
112x2
125x4
139x2
140x4
141x4
155x3
4-148

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
4- 1	44A358670	Film gate assembly (II)	4-2, 4-18, 4-22, 4-23, 4-26, 4-27$^{\times 2}$, 4-28, 4-29 4-49, 4-50, 4-51, 4-54, 4-55, 4-63, 4-64, 4-65, 4-66, 4-67$^{\times 4}$, 4-68, 4-69	1	
4- 2	44A358660	Film gate assembly (I)	4-3, 4-4$^{\times 2}$, 4-5$^{\times 2}$, 4-6, 4-7, 4-10$^{\times 4}$, 4-11$^{\times 2}$, 4-12, 4-13, 4-14	1	
4- 3	85B350040	Plate		1	
4- 4	110M 170201S	Screw		2	
4- 5	27B356110	Moquette		2	
4-16	111M 170301G	Screw		2	
4-17	110M 170301S	Screw		2	
4-18	47A358530	Lever assembly	4-19, 4-20, 4-21	1	
4-22	29B351660	Slide plate		1	
4-23	47A358640	Lever assembly	4-24, 4-25	1	
4-26	53B14211	Screw		1	
4-27	53B14211	Screw		2	
4-29	44A358630	Pressure plate assembly	4-30, 4-35, 4-41, 4-42, 4-43, 4-46, 4-47, 4-48$^{\times 3}$	1	
4-30	31A358620	Shaft holder assembly	4-31, 4-32, 4-33$^{\times 2}$, 4-34	1	
4-35	44A358610	Pressure plate assembly	4-36, 4-37, 4-40	1	
4-41	120M 140253B	Adjust screw		1	
4-42	111M 170201S	Screw		2	
4-43	44A358590	Pressure plate assemlby	4-44, 4-45, 4-151$^{\times 2}$	1	

Fig. 4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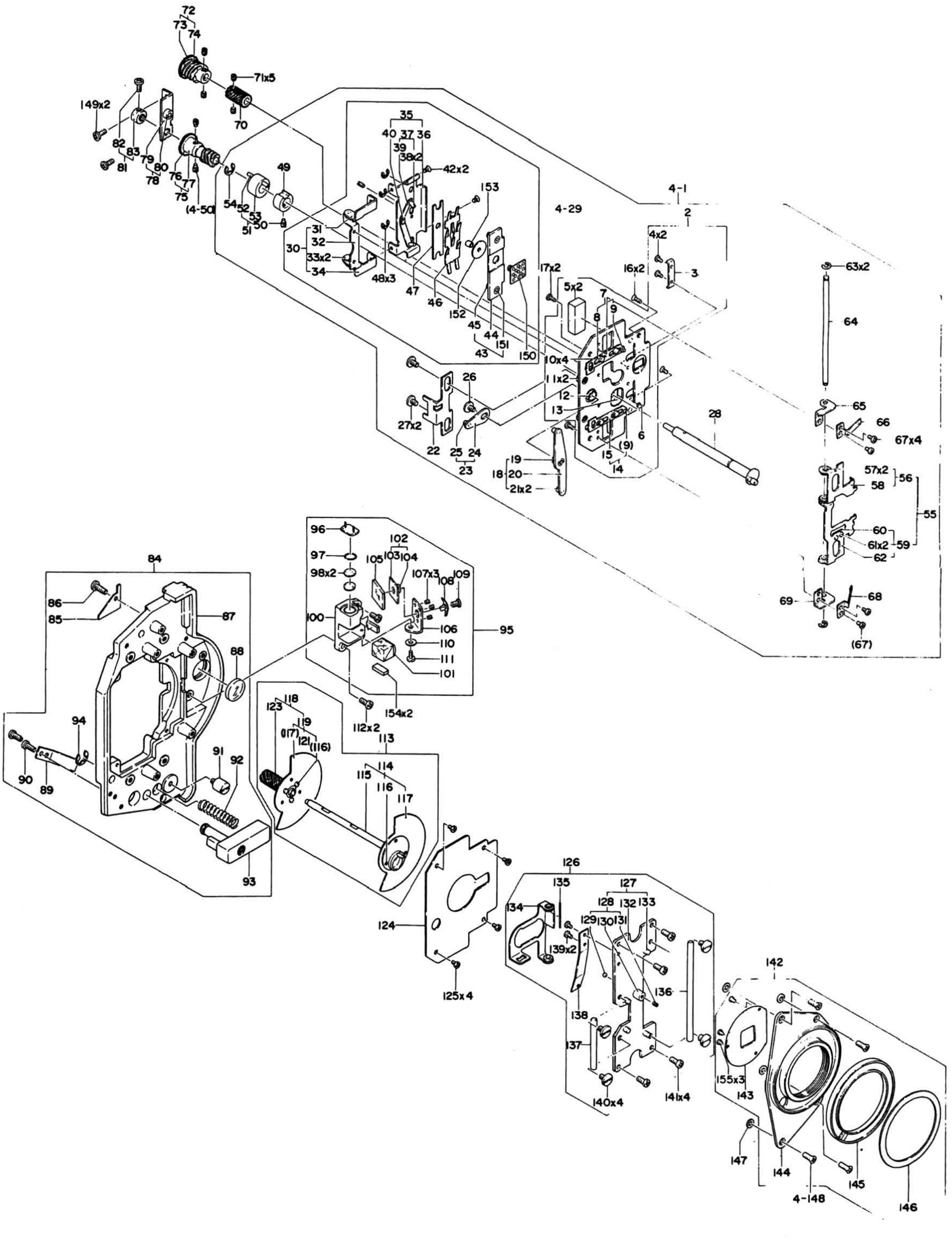
61x2
(67)
98x2
107x3
154x2
112x2
(117)
(116)
125x4
139x2
140x4
141x4
155x3
4-148

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
4-46	44B350350	Leaf spring		1	
4-47	44B350340	Plate		1	
4-48	191M015T	E-clip		3	
4-49	23B352640	Ring		1	
4-50	53B355050	Screw		3	
4-51	23A355310	Corrector ring assembly	4-52, 4-53	1	
4-54	191M020T	E-clip		1	
4-66	50B350240	Leaf spring		1	
4-67	110M 170201S	Screw		4	
4-68	50B350220	Leaf spring		1	
4-70	34B350390	Herical gear		1	
4-71	120M 200201N	Screw		1	
4-72	34A357780	Worm gear assembly	4-73, 4-74	1	
4-75	34A357790	Worm gear assembly	4-76, 4-77	1	
4-78	46A357800	Shaft holder assembly	4-79, 4-80	1	
4-81	110A357810	Bushing assembly	4-82, 4-83	1	
4-82	110M 170301S	Screw		1	
4-83	42B355070	Bushing		1	
4-84	10A358760	Front frame assembly	4-85, 4-86, 4-87, 4-88, 4-89, 4-90, 4-91, 4-92, 4-93, 4-94,	1	
4-85	87B356720	Plate		1	
4-86	110M 200251N	Screw		1	
4-87	10B351610	Front frame		1	

Fig. 4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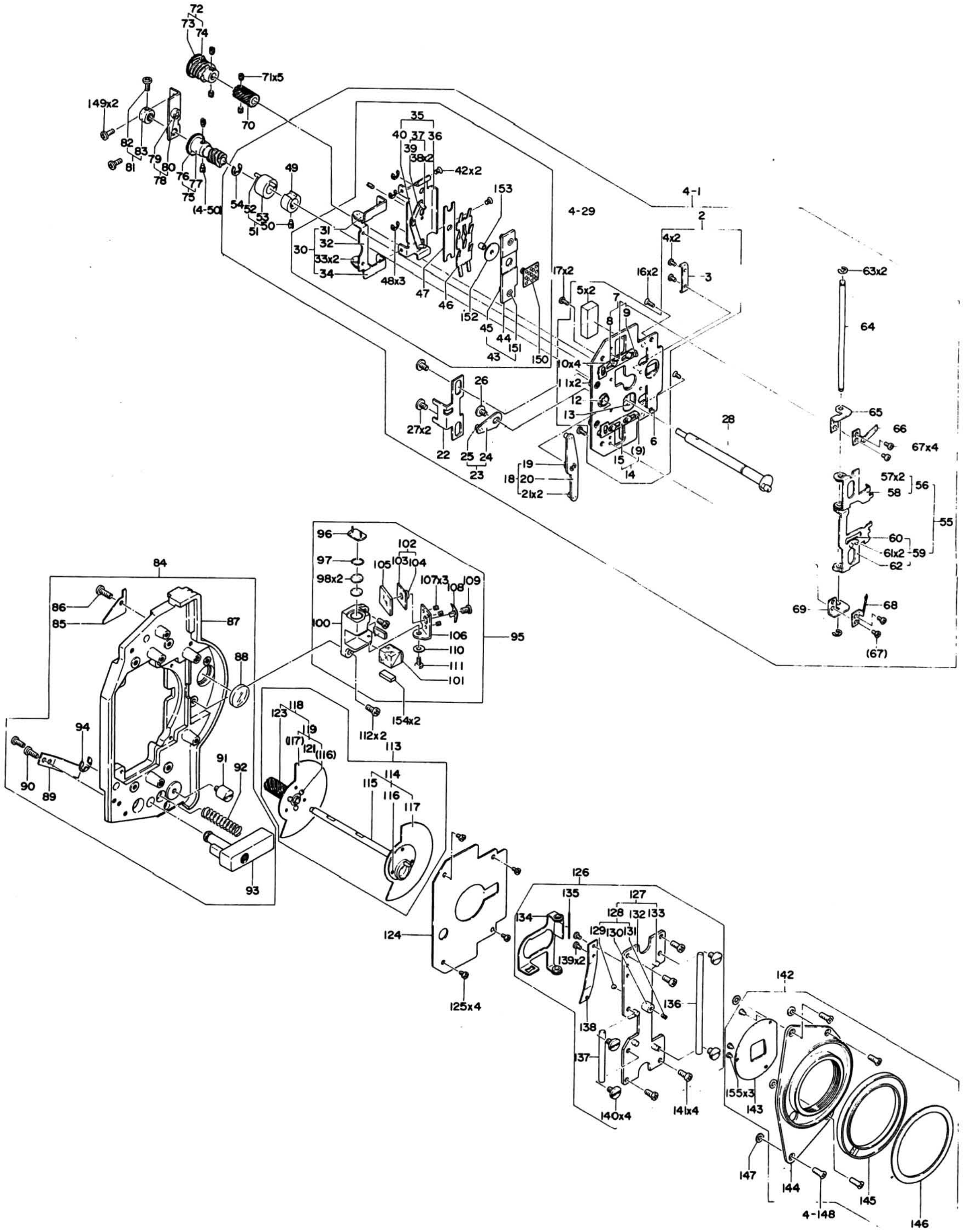
98x2
107x3
(67)
154x2
112x2
(117)
(116)
139x2
125x4
155x3
140x4
141x4
4-148

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
4- 88	6B603260	Glass		1	
4- 89	50B355740	Leaf spring		1	
4- 90	110M 200301N	Screw		2	
4- 91	32B356100	Guide pin		1	
4- 92	50B355620	Spring		1	
4- 93	47A358720	Shutter release button ass'y		1	
4- 94	191M030T	E-clip		1	
4- 95	10A358710	Prism assembly	4-96, 4-97, 4-98, 4-100, 4-101, 4-102, 4-105, 4-106, 4-107×3, 4-108, 4-109, 4-110, 4-111, 4-154×2	1	
4- 96	106B430410	Photocell		1	
4- 97	50B355940	Spring		1	
4- 98	1B212590	G16 lens		2	
4-102	10A358680	Mirror assembly	4-103, 4-104	1	
4-106	10B351760	Angle plate		1	
4-107	120M 170201S	Adjust screw		3	
4-108	50B49850	Suspension spring		2	
4-109	110M 170203S	Screw		1	
4-110	55B49890	Washer		1	
4-111	53B49900	Nut		1	
4-112	110M 200401S	Screw		2	
4-113	39A357600	Sector assembly	4-114, 4-118	1	
4-114	39A357570	Stationary sector assembly	4-115, 4-116, 4-117	1	

Fig. 4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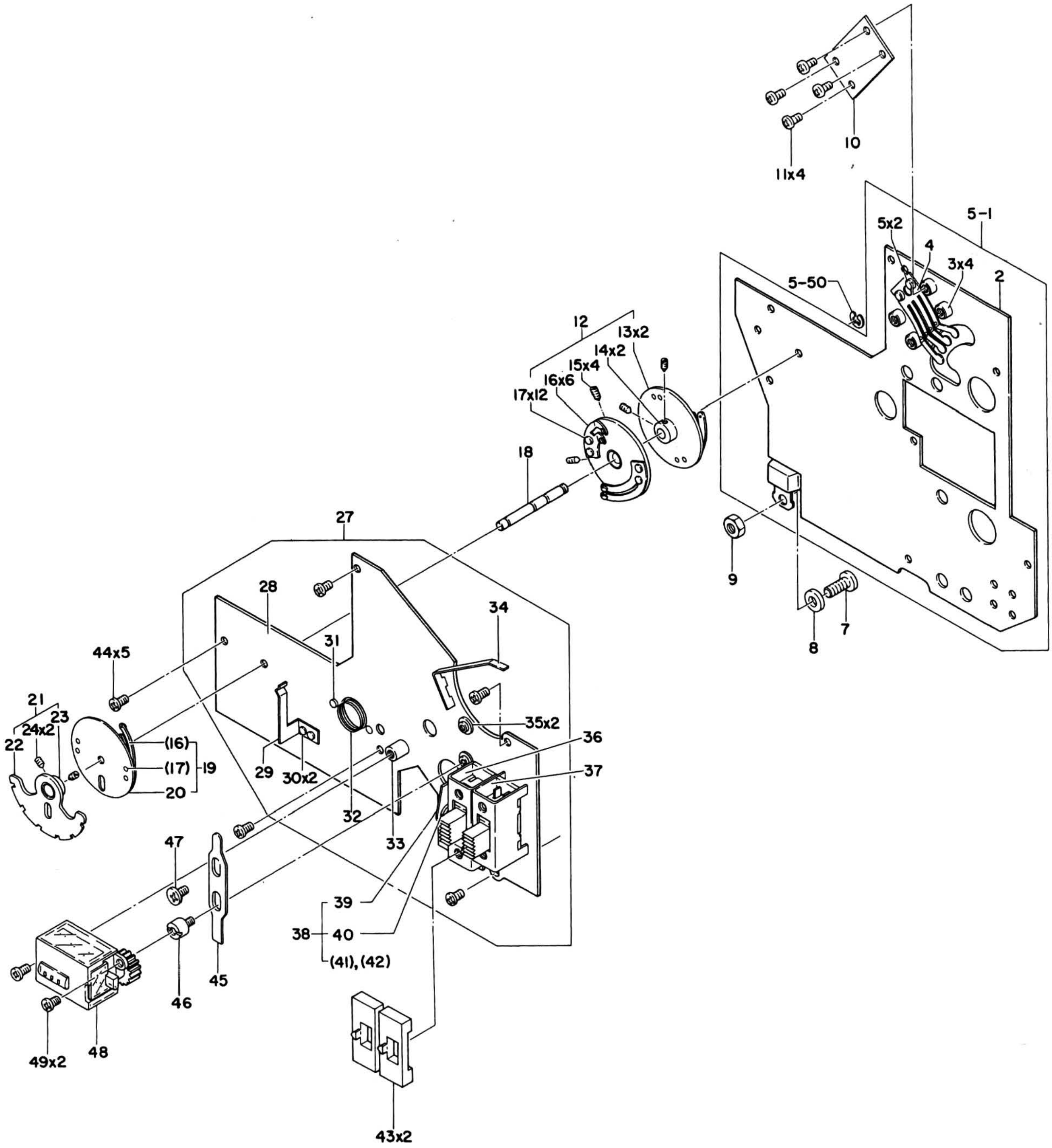
(67)
98x2
107x3
154x2
112x2
(117)
(116)
125x4
139x2
140x4
141x4
155x3
4-148

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
4-118	39A357590	Movable sector assembly	4-119, 4-123	1	
4-124	27B355660	Light shielding plate		1	
4-125	110M 170201S	Screw		4	
4-126	46A358750	Reciprocating mirror assembly	4-127, 4-134, 4-135, 4-136, 4-137, 4-138, 4-139×2, 4-140×4	1	
4-129	200M16	Steel ball		1	
4-131	120M 140153S	Screw		1	
4-139	110M 170201S	Screw		2	
4-140	53B23580	Screw		4	
4-141	110M 200401S	Screw		4	
4-142	23A358780	Lens mount assembly	4-143, 4-144, 4-145, 4-146	1	
4-147	55B95280	Washer		0~	
4-147	55B95390	Washer		0~	
4-148	111M 200503N	Screw		4	
4-149	110M 200251N	Screw		2	
4-150	44B350400	Pressure plate		1	
4-152	55B350450	Washrr		1	
4-153	42B350460	Collar		1	
4-154	27B351810	Moquette		2	

Fig. 5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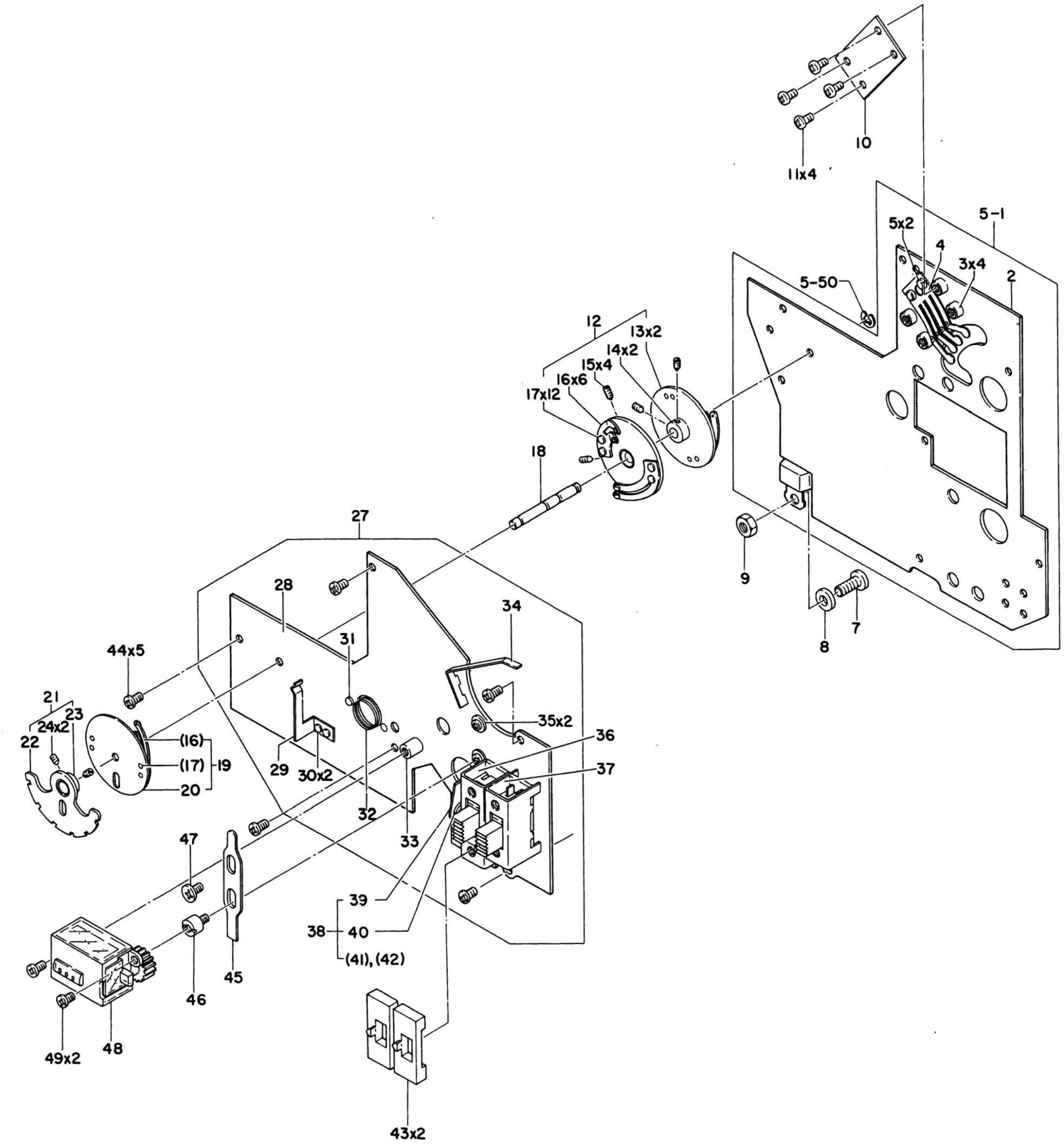
(17)
30x2
(41), (42)
49x2
43x2

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
5- 1	110A357910	Lower printed circuit board assembly	5-2, 5-3$^{\times 4}$, 5-4, 5-5$^{\times 2}$, 5-6$^{\times 2}$	1	
5- 7	53K15300	Screw		1	
5- 8	55B331390	Washer		1	
5- 9	150M030	Nut		1	
5-10	110A359660	Printed circuit board assembly		1	
5-11	110M 200301N	Screw		4	
5-12	109A357990	Rotary plate assembly	5-13$^{\times 2}$, 5-14$^{\times 2}$, 5-15$^{\times 4}$, 5-16$^{\times 6}$, 5-17$^{\times 12}$	2	
5-15	120M 170201N	Screw		2	
5-18	32B354700	Shaft		1	
5-19	109A357980	Roaty plate assembly	5-16, 5-17, 5-20	1	
5-21	86A358010	Click plate assembly	5-22, 5-23, 5-24	1	
5-27	110A357830	Upper printed circuit board assembly	4-28, 4-29, 4-30$^{\times 2}$, 4-31, 4-32, 4-33, 4-34, 4-35$^{\times 2}$, 4-36, 4-37	1	
5-32	50B11630	Spring		1	
5-34	109B355390	Contact piece		1	
5-36	121K15280	Switch		1	
5-37	121K15290	Switch		1	
5-38	85A357740	Angle assembly	5-39, 5-40, 5-41, 5-42	1	
5-43	82B355140	Switch cover		2	
5-44	110M 200351N	Screw		5	
5-45	47B352930	Lever		1	

Fig. 5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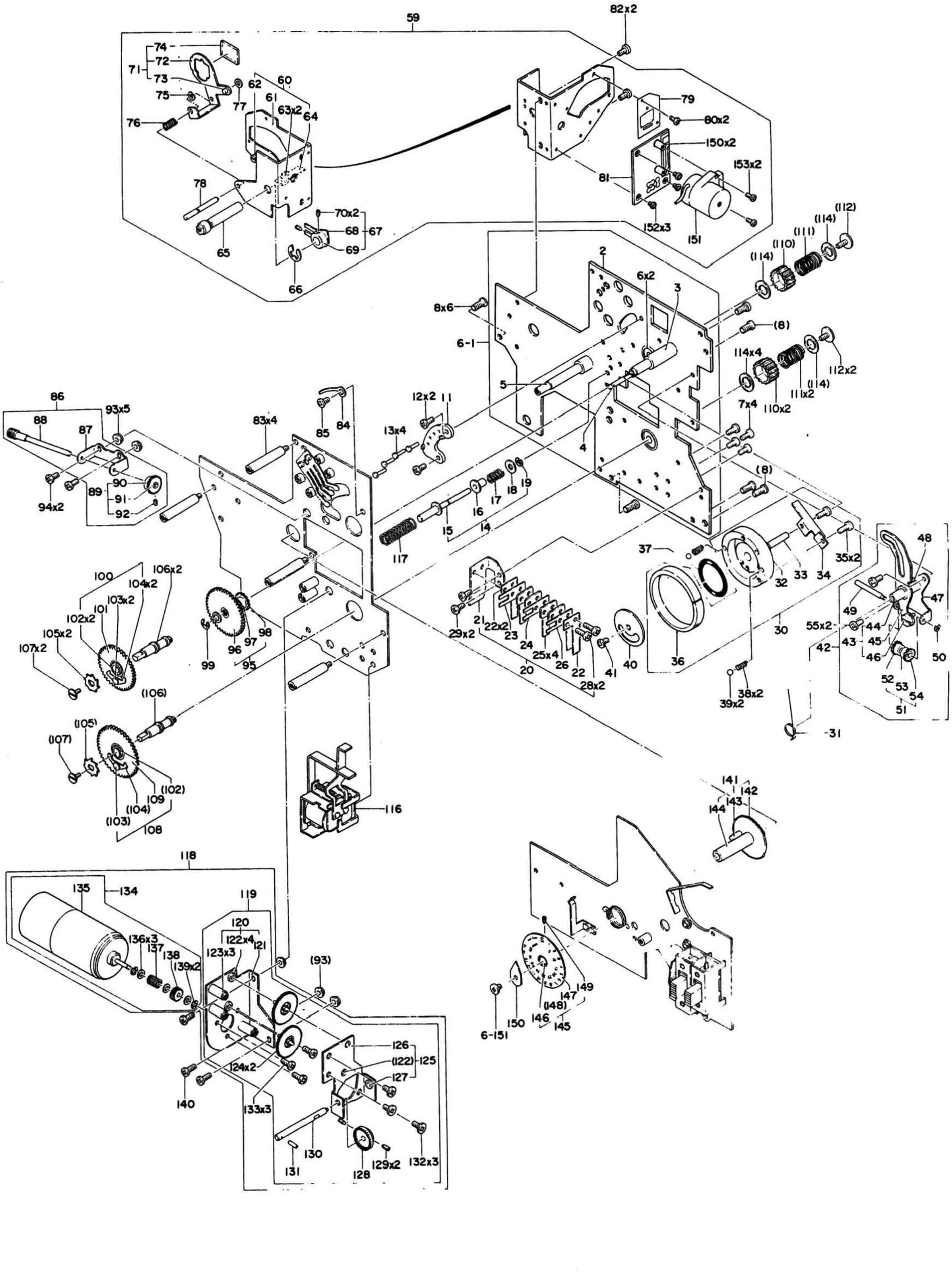
(16)
(17)
35x2
30x2
(41), (42)
49x2
43x2

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
5-46	13B355350	Pin		1	
5-47	53B14211	Screw		1	
5-48	322A357700	Digital frame counter assembly		1	
5-49	110M 200351N	Screw		2	
5-50	191M020H	E-clip		1	

Fig. 6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123x3
136x3
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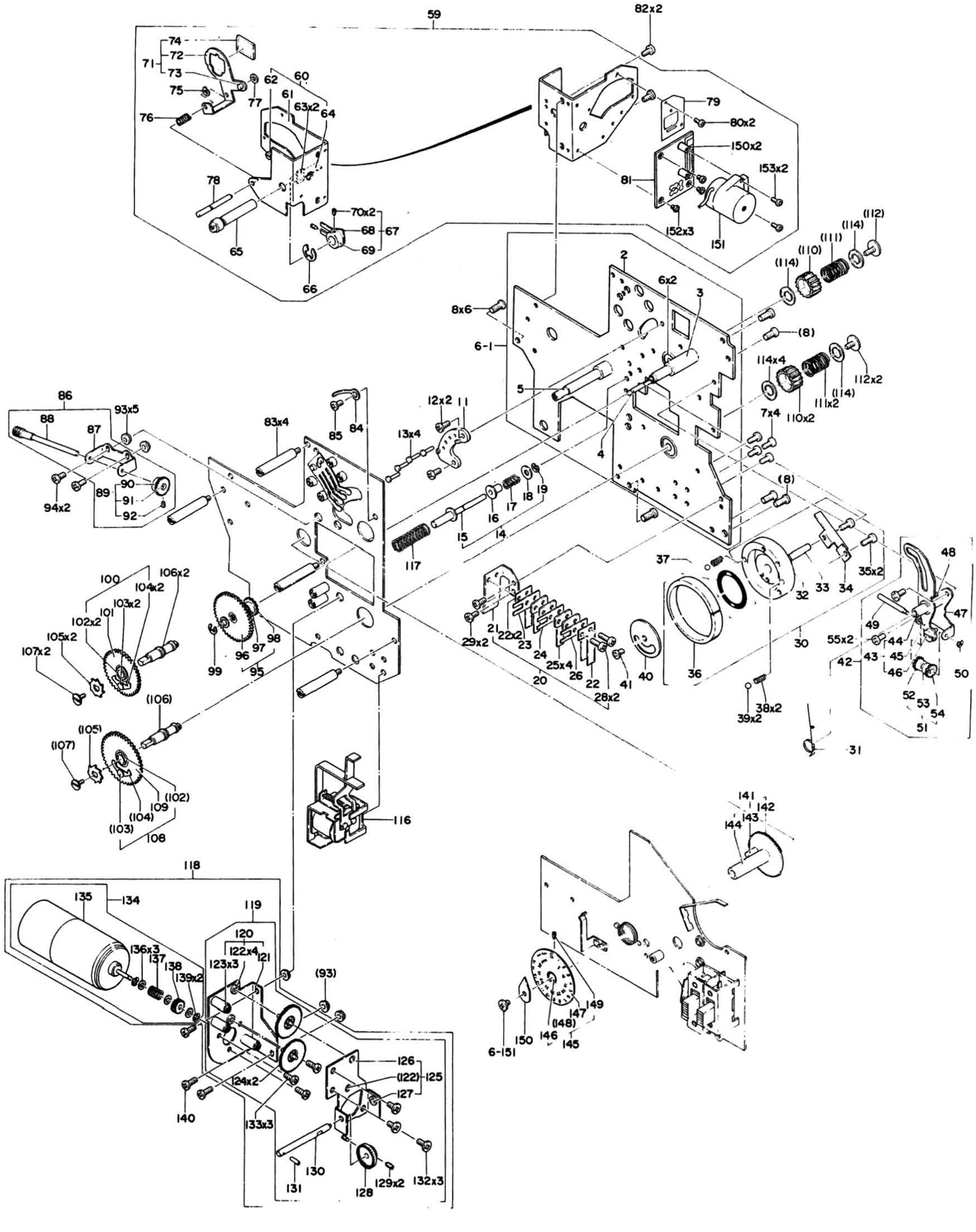
132x3
(148)
6-151

Ref No.	Part No.	Part Name	Assembled Ref No.	O'ty	Reamrks
6- 1	46A357860	Base plate assembly	6-2, 6-3, 6-4, 6-5, 6-6$^{\times 2}$	1	
6- 7	110M 200351N	Screw		4	
6- 8	110M 260401N	Screw		6	
6-11	30B351780	Pin base		1	
6-12	110M 200301N	Screw		2	
6-13	17B351790	Pin		4	
6-14	32A357690	Zero-reset bar assembly	6-15, 6-16, 6-17, 6-18, 6-19	1	
6-15	32B353150	Shaft		1	
6-16	42B352700	Collar		1	
6-17	50B93252	Spring		1	
6-18	55B25160	Washer		1	
6-19	191M015H	E-clip		1	
6-20	10A357930	Angle assembly	6-21, 6-22$^{\times 2}$, 6-23, 6-24, 6-25$^{\times 4}$, 6-26	1	
6-21	10B355570	angle		1	
6-22	115B355560	Myler plate		2	
6-23	109A357960	Contact piece assembly		1	
6-24	109A357950	Contact piece assembly		1	
6-25	115B98230	Insulator		4	
6-26	109A357940	Contact piece assembly		1	
6-28	53K15230	Screw		2	
6-29	110M 200251N	Screw		2	

Fig. 6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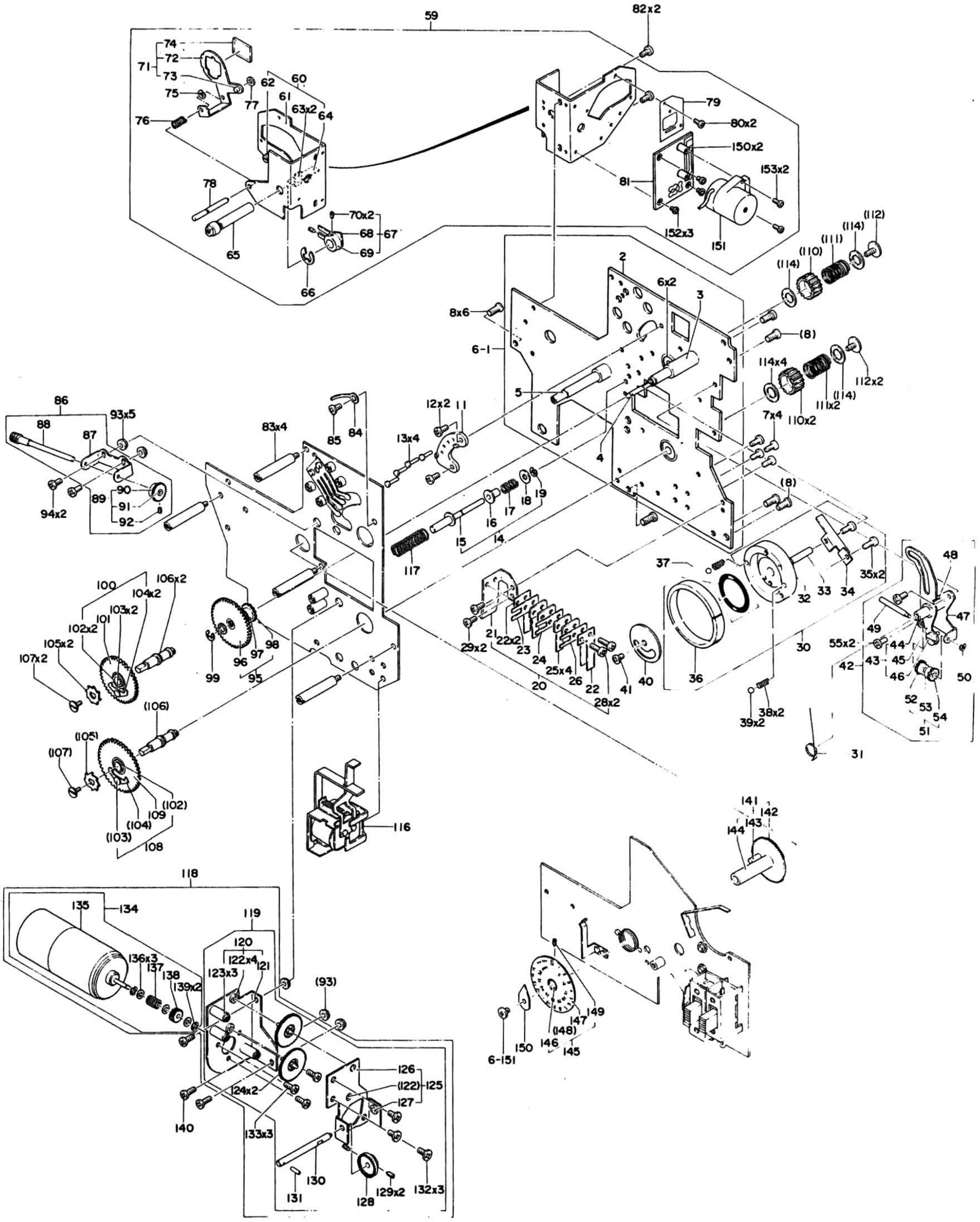
133x3
129x2
132x3

Ref No.	Part No.	Part Name	Assembled Ref No.	O'ty	Remarks
6-30	32A357730	Rotary shaft assembly	6-32, 6-33, 6-34, 6-35×2, 6-36	1	
6-31	50B350750	Spring		1	
6-34	50B352890	Leaf spring		1	
6-35	110M 200301N	Screw		2	
6-36	27B355400	Moquette		1	
6-37	60K14260	O-ring		1	
6-38	50B355970	Spring		2	
6-39	200M20	Steel ball		2	
6-40	85B352870	Plate		1	
6-41	53B14211	Screw		1	
6-42	35A357630	Cam assembly	6-43, 6-47, 6-48, 6-49, 6-50, 6-51	1	
6-49	32B350610	Shaft		1	
6-50	191M008H	E-clip		1	
6-51	34A357640	Gear assembly	6-52, 6-53, 6-54	1	
6-55	110M 200251N	Screw		2	
6-56	37B11540	Shaft		2	
6-57	54B25530	Nut		2	
6-58	55B27340	Cover		2	
6-59	10A358890	Frame assembly	6-60, 6-65, 6-66, 6-67, 6-71, 6-74, 6-75, 6-76, 6-77, 6-78, 6-79, 6-80×2, 6-81	1	
6-60	10A358880	Frame assembly	6-61, 6-62, 6-63×2, 6-64	1	
6-65	32B355680	Shaft		1	

Fig. 6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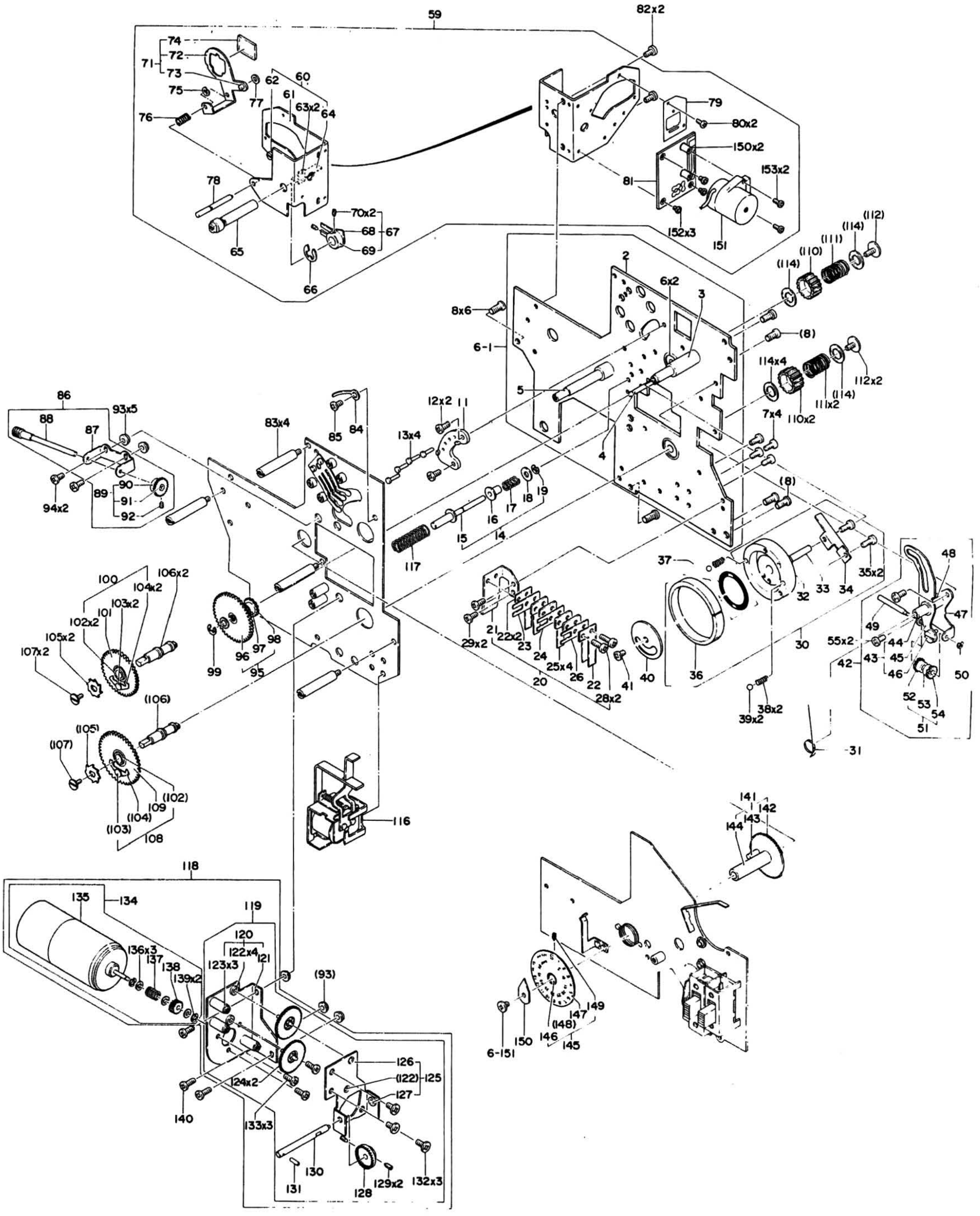
133x3
132x3
129x2

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
6-66	191M030T	E-clip		1	
6-67	42A358870	Bushing assembly	6-68, 6-69, 6-70$^{\times 2}$,	1	
6-70	120M 170201S	Screw		2	
6-71	47A358860	Lever assembly	6-72, 6-73, 6-74	1	
6-75	191M030T	E-clip		1	
6-76	50B27630	Spring		1	
6-77	55B43911	Washer		1	
6-78	32B355680	Shaft		1	
6-80	110M 140161S	Screw		2	
6-82	110M 200351N	Screw		2	
6-83	13B355130	Pin		4	
6-84	11B72560	Cord holder		1	
6-85	110M 200201N	Screw		1	
6-86	46A357820	Shaft holder assembly		1	
6-87	46B353180	Shaft holder		1	
6-88	34B353160	Shaft		1	
6-89	34A357720	Gear assembly	6-90, 6-91, 6-92	1	
6-92	120M 170201N	Screw		1	
6-93	42B355470	Collar		5	
6-94	110M 200251N	Screw		2	
6-95	34A357710	Worm gear assembly	6-96, 6-97, 6-98	1	
6-99	191M012T	E-clip		1	
6-100	34A357760	Feed gear assembly	6-101, 6-102$^{\times 2}$, 6-103$^{\times 2}$, 6-104$^{\times 2}$	1	

Fig. 6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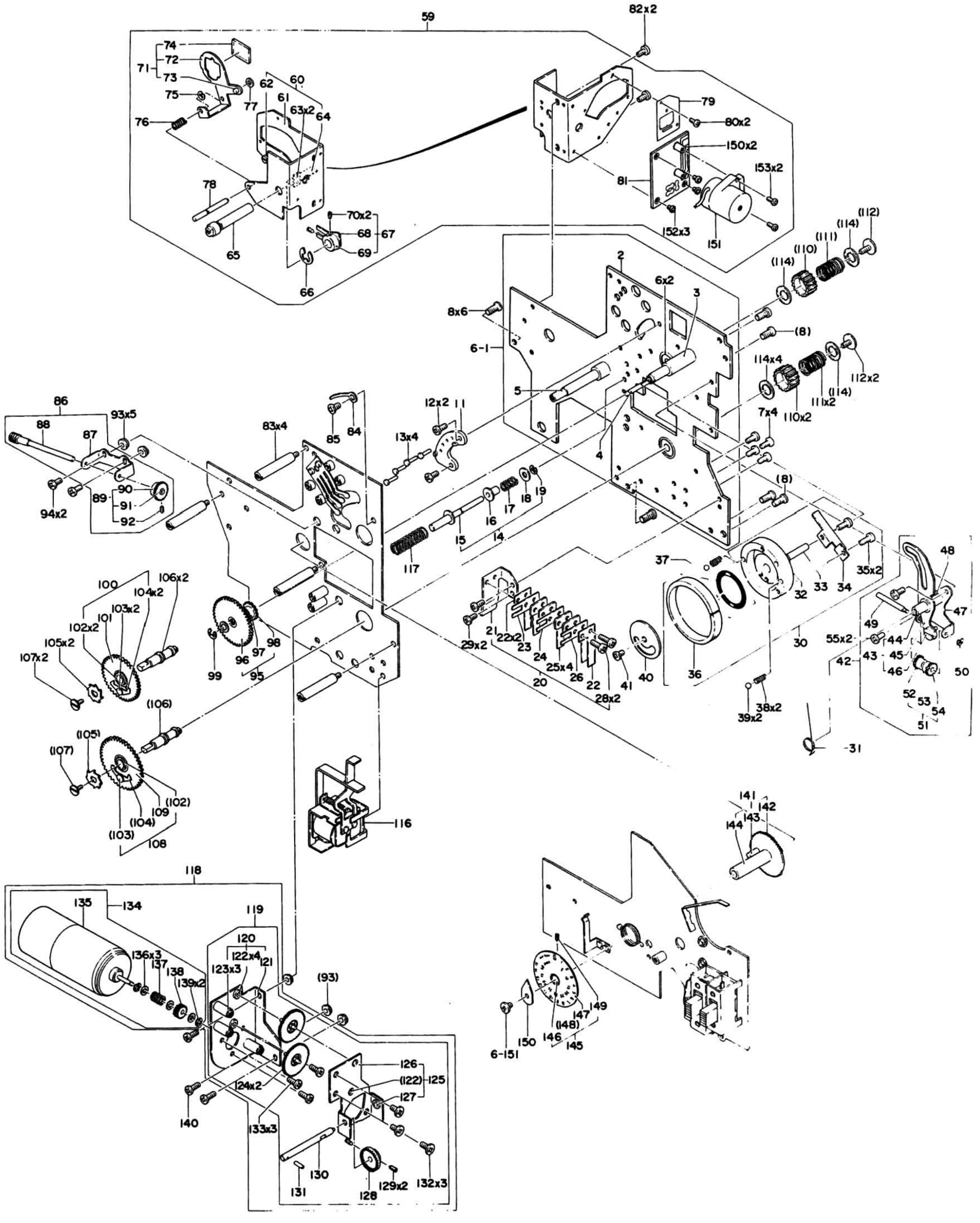
6-151
(122)
124x2
133x3
129x2
132x3

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
6-103	17B350800	Rivet		2	
6-104	17B350780	Claw		2	
6-106	32B352960	Shaft		2	
6-107	53B11510	Screw		1	
6-108	34A357750	Take-up gear assembly		1	
6-110	37B11540	Wheel		2	
6-111	50B350950	Spring		1	
6-112	53B11560	Screw		2	
6-113	50B350980	Spring		1	
6-114	55B11800	Washer		0 ~ 6	
6-116	125A352580	Solenoid assembly		1	
6-117	50B430960	Spring		1	
6-118	101A357560	Motor gear train assemlly	6-119, 6-133, 6-134, 6-130, 6-131, 6-132$^{\times 3}$,	1	
6-119	46A357530	Support assembly	6-120, 6-124, 6-125, 6-128, 6-129$^{\times 2}$	1	
6-120	46A357530	Support assembly	6-121, 6-122$^{\times 5}$, 6-123$^{\times 3}$	1	
6-124	34A357520	Idler assembly		2	
6-125	46A357540	Support assembly	6-126, 6-127, 6-122$^{\times 5}$	1	
6-127	31B353170	Bushing		1	
6-128	34B352610	Gear		1	
6-129	120M220203N	Screw		2	
6-130	32B357550	Shaft		1	
6-131	182M12041T	Pin		1	
6-132	53B14211	Screw		3	

Fig. 6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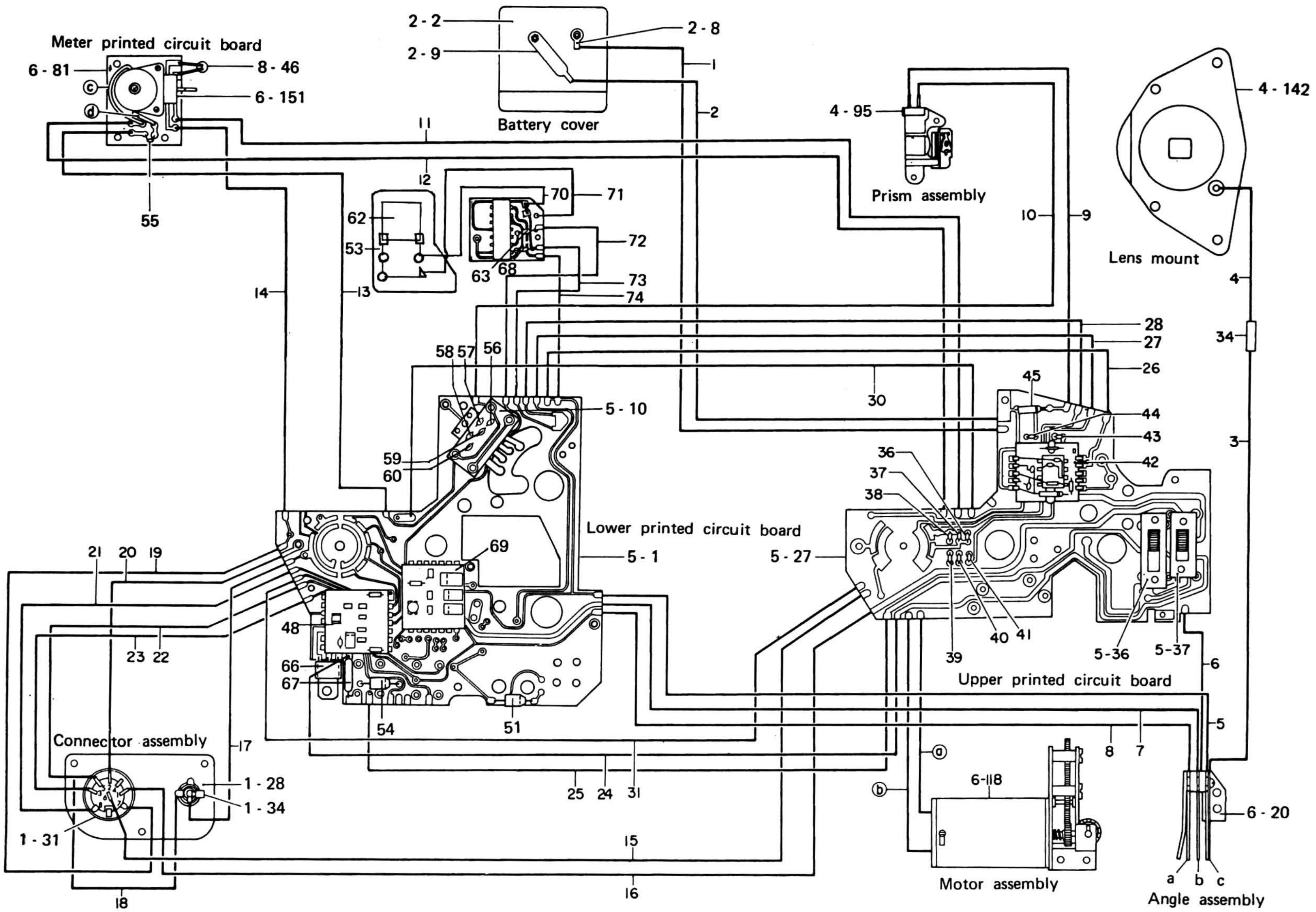
6-151
(122)
124x2
133x3
129x2
132x3

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
6-133	110M 200301N	Screw		3	
6-134	101A357510	Motor assembly	6-135, 6-136$^{\times3}$, 6-137, 6-138, 6-139$^{\times2}$	1	
6-140	110M 200301N	Screw		3	
6-141	34A357660	Gear assembly	6-142, 6-143, 6-144	1	
6-145	65A357670	Dial plate assembly	6-146, 6-147, 6-148	1	
6-149	120M 200202N	Screw		1 1	
6-151	107B355820	Meter		1	
6-152	110M 170201S	Screw		3	
6-153	110M 170501S	Screw		2	
6-154	65B11640	Pointer		1	
6-155	53B14211	Screw		1	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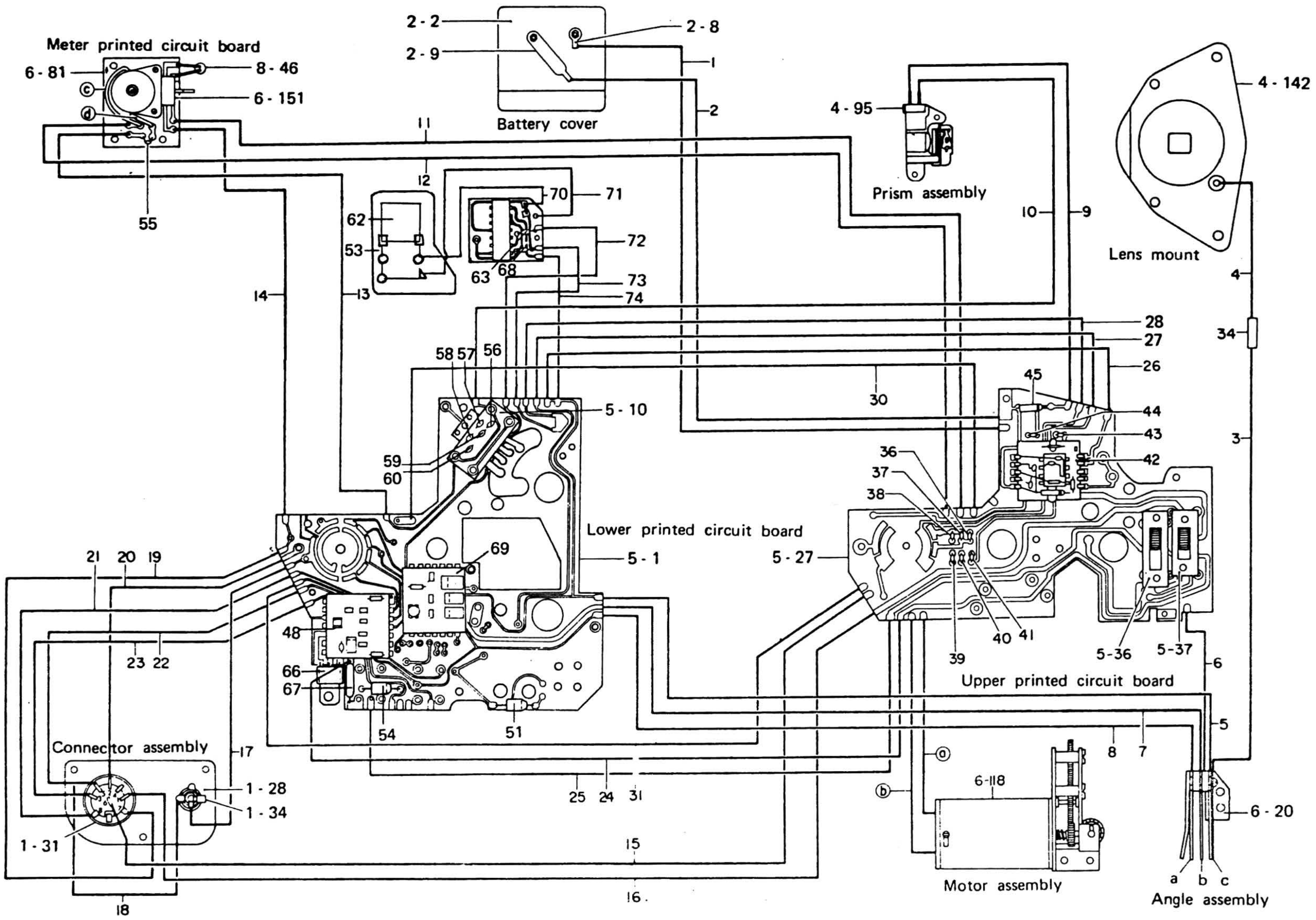
4 - 95
Prism assembly
4 - 142
Lens mount
5 - 10
Lower printed circuit board
5 - 1
5 - 27
5-36
5-37
Upper printed circuit board
Connector assembly
1 - 28
1 - 34
1 - 31
ⓐ
ⓑ
6-118
Motor assembly
6 - 20
a
b
c
Angle assembly

Fig. 7

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
7- 1	111B354180	Lead wire (Red-40mm)		1	
7- 2	111B354190	Lead wire (Black-40mm)		1	
7- 3	111B354210	Lead wire (Red-30mm)		1	
7- 4	111B354200	Lead wire (Red-50mm)		1	
7- 5	111B354070	Lead wire (Yellow-30mm)		1	
7- 6	111B354100	Lead wire (Red-25mm)		1	
7- 7	111B354110	Lead wire (Red-25mm)		1	
7- 8	111B354100	Lead wire (Red-25mm)		1	
7- 9	111B353970	Lead wire (Transparent-120mm)		1	
7-10	111B353970	Lead wire (Transparent-120mm)		1	
7-11	111B353980	Lead wire (White-72mm)		1	
7-12	111B354090	Lead wire (Black-60mm)		1	
7-13	111B354010	Lead wire (Red-48mm)		1	
7-14	111B354030	Lead wire (Blue-78mm)		1	
7-15	111B354140	Lead wire (Green-76mm)		1	
7-16	111B354120	Lead wire (Red-70mm)		1	
7-17	111B354020	Lead wire (Red-100mm)		1	
7-18	111B354050	Lead wire (Green-40mm)		1	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8 - 46
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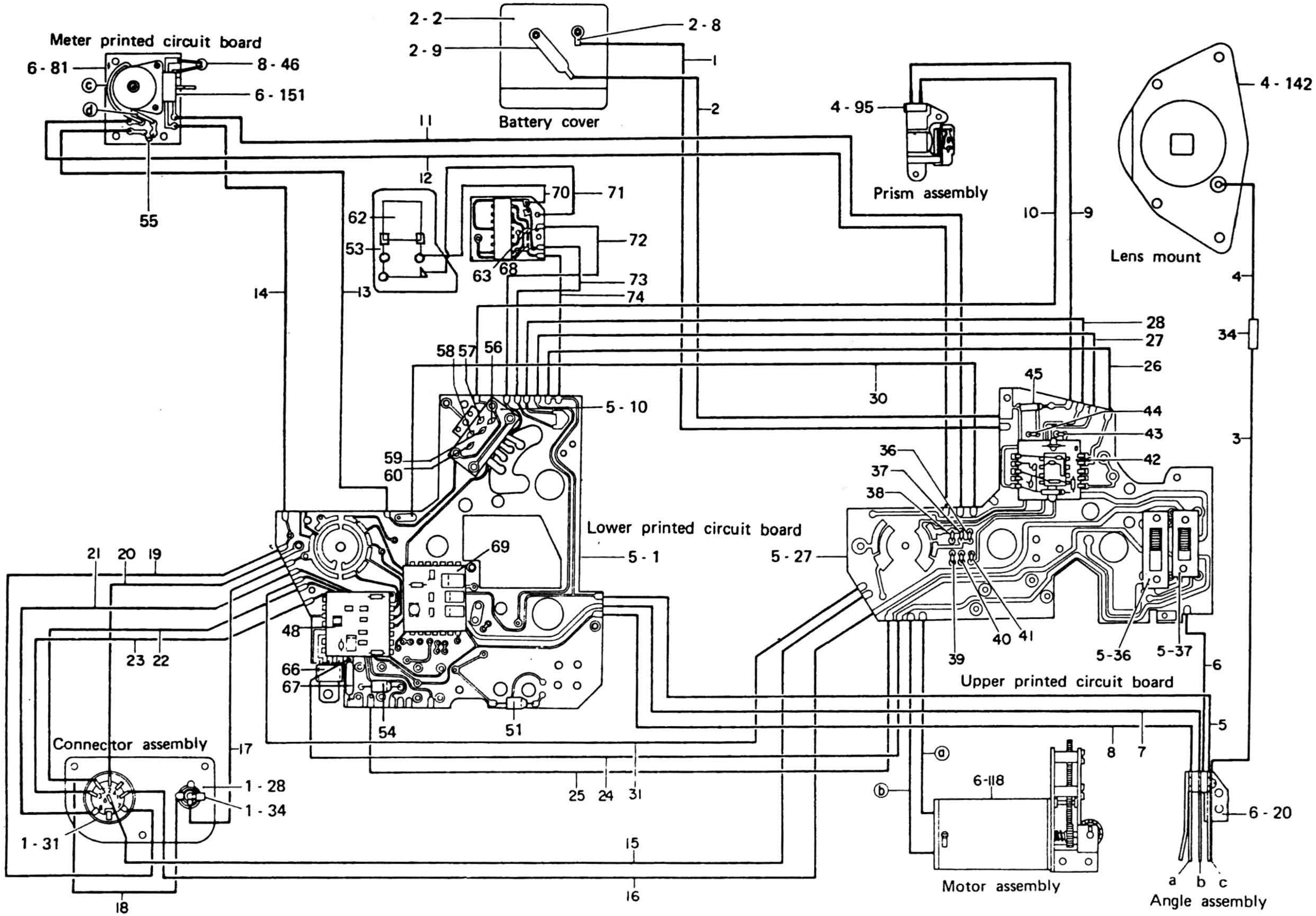
2 - 2
2 - 9
2 - 8
Battery cover
4 - 95
Prism assembly
4 - 142
Lens mount
5 - 10
Lower printed circuit board
5 - 1
5 - 27
5-36
5-37
Upper printed circuit board
Connector assembly
1 - 28
1 - 34
1 - 31
ⓐ
ⓑ
6-118
Motor assembly
6 - 20
a
b
c
Angle assembly

Fig. 7

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Reamrks
7-19	111B354040	Lead wire (Blue-90mm)		1	
7-20	111B354160	Lead wire (Black-90mm)		1	
7-21	111B353990	Lead wire (White-82mm)		1	
7-22	111B354060	Lead wire (Green-72mm)		1	
7-23	111B354080	Lead wire (Yellow-100mm)		1	
7-24	111B354130	Lead wire (Green-30mm)		1	
7-25	111B354150	Lead wire (White-30mm)		1	
7-26	111B353960	Lead wire (Transparent-20mm)		1	
7-27		Lead wire (Blue-55mm)		1	
7-28	111B353960	Lead wire (Transparent-20mm)		1	
7-29	111B353960	Lead wire (Transparent-20mm)		1	
7-30	111B353960	Lead wire (Transparent-20mm)		1	
7-31	111B353960	Lead wire (Transparent-20mm)		1	
7-32		Lead wire (White-55mm)		1	
7-33		Lead wire (Red-40mm)		1	
7-34		Insulation tube		1	
7-35		Power transistor		1	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72
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74
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13
4 - 95
Prism assembly
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Lens mount
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43
42
59
60
36
37
38
Lower printed circuit board
69
5 - 1
5 - 27
21 20 19
48
23 22
66
67
54
51
39
40 41
5-36
5-37
6
Upper printed circuit board
5
8
7
Connector assembly
17
1 - 28
1 - 34
1 - 31
25 24 31
ⓐ
ⓑ
6-118
6 - 20
15
16
18
Motor assembly
a b c
Angle assembly

Fig. 7

Ref No.	Part No.	Part Name	Assembled Ref No.	O'ty	Remarks
7-36	117B357020	Resistor (17.5KΩ)		1	
7-37	117B356940	Resistor (10KΩ)		1	
7-38	117B357010	Resistor (7.2KΩ)		1	
7-39	117B357000	Resistor (40KΩ)		1	
7-40	117B356990	Resistor (4.5KΩ)		1	
7-41	117B356950	Resistor (5.5KΩ)		1	
7-42	106A356140	A-block		1	
7-43	117B356930	Resistor (510Ω)		1	
7-44	117B356940	Resistor (10KΩ)		1	
7-45	106K227860	Zener diode		1	
7-46	106K227850	LED		1	
7-47	106K227910	C-block		1	
7-48		E-block		1	
7-49		VR 1 (330Ω)		1	
7-50		VR 2 (22KΩ)		1	
7-51	106K153730	Diode (DS-130YC)		1	
7-52		Power transistor		1	
7-53		Lead wire (Red)		1	
7-54	106K153730	Diode (DS-130)		1	
7-55	117B357050	Resistor (100KΩ)		1	
7-56	117B356940	Resistor (10KΩ)		1	
7-57	117B356950	Resistor (5.5KΩ)		1	
7-58	117B356970	Resistor (13.2KΩ)		1	

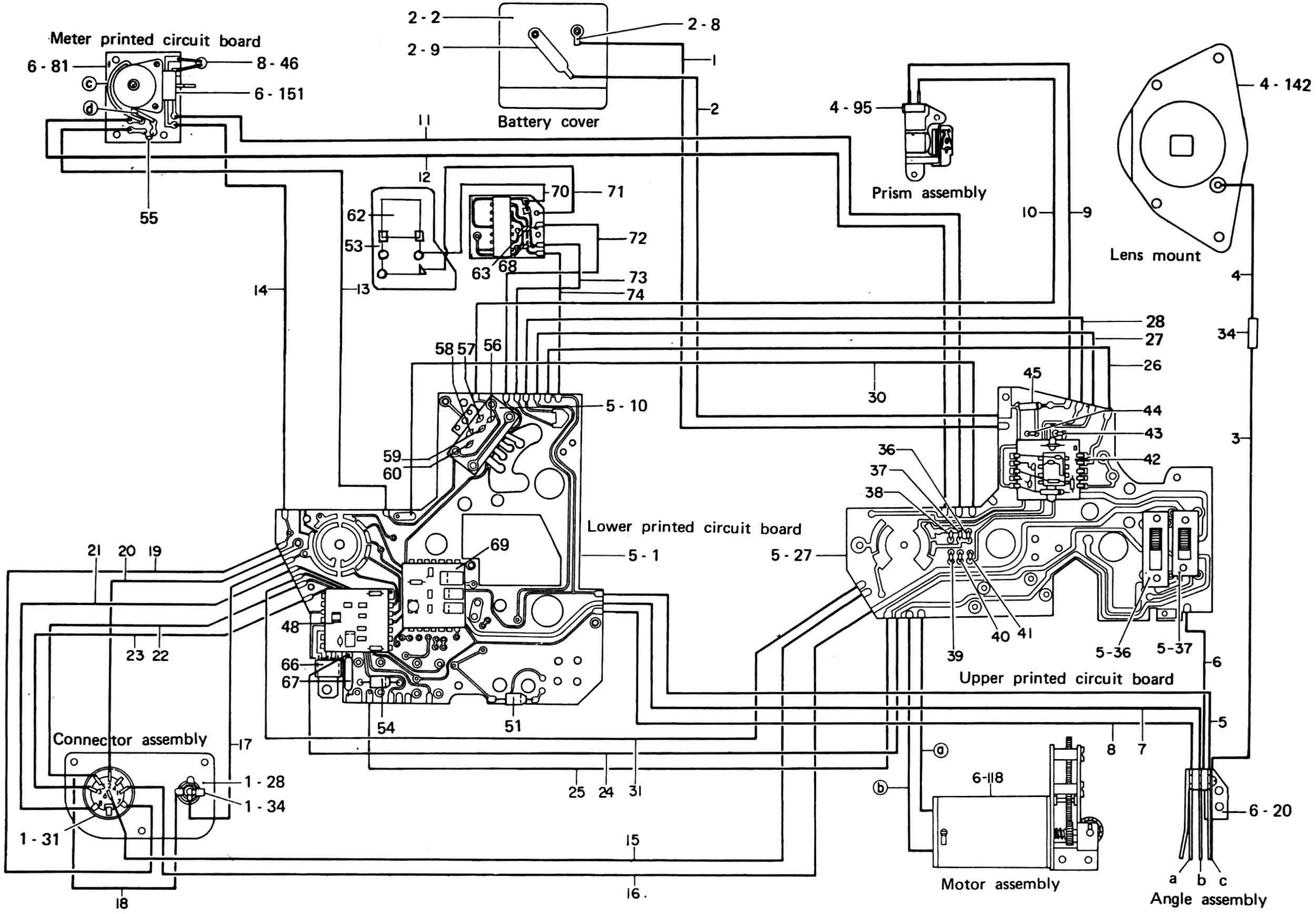

Meter printed circuit board
6 - 81
ⓒ
ⓓ
8 - 46
6 - 151
2 - 2
2 - 9
2 - 8
Battery cover
4 - 95
Prism assembly
4 - 142
Lens mount
5 - 10
Lower printed circuit board
5 - 1
5 - 27
5-36
5-37
Upper printed circuit board
Connector assembly
1 - 28
1 - 34
1 - 31
ⓐ
ⓑ
6-118
Motor assembly
6 - 20
a
b
c
Angle assembly

Fig. 7

Ref No.	Part No.	Part Name	Assembled Ref No.	O'ty	Remarks
7-59	117B356960	Resistor (8.5KΩ)		1	
7-60	117B356980	Resistor (20.5KΩ)		1	
7-61	121K15261	Relay		1	
7-62	117K227840	VR 3 (220KΩ)		1	
7-63		Resistor (3KΩ)		1	
7-64		Capacitor (0.001 μF)		1	
7-65		VR 4-(10KΩ)		1	
7-66	106K227890	Power transistor		1	
7-67		Resistor (0.5KΩ)		1	
7-68	117B357030	Resistor (11KΩ)		1	
7-69	106A356200	F-block		1	
7-70		Lead wire (Red-110mm)		1	
7-71		Lead wire (Transparent-110mm)		1	
7-72		Lead wire (Transparent-20mm)		1	
7-73		Lead wire (Transparent-20mm)		1	
7-74		Lead wire (Transparent-20mm)		1	
7-74a		Lead wire (Black-34mm)		1	
7-74b		Lead wire (Yellow-34mm)		1	

GRIP ZC1000

Ⅰ TROUBLESHOOTING 1

Ⅱ DISASSEMBLY 3

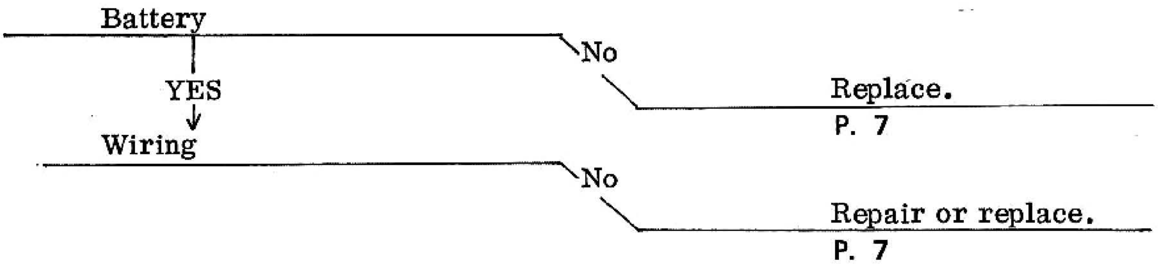
Ⅲ REPAIR AND ADJUSTMENT 7

Ⅳ INSPECTION 12

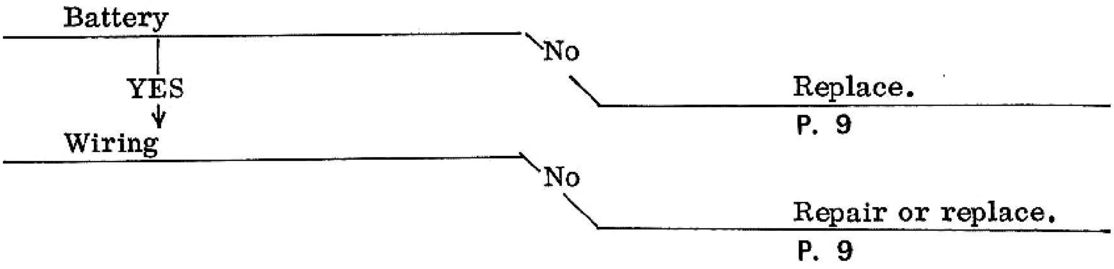
Ⅴ PART LIST 14

I TROUBLESHOOTING

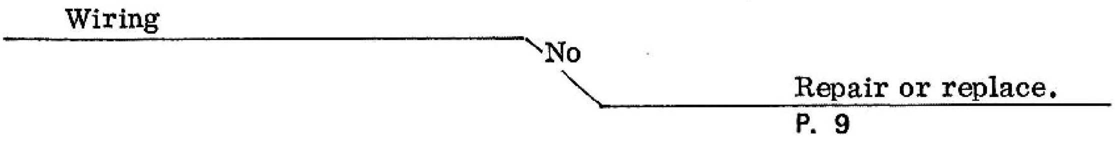
1. When the grip is installed on the camera, exposure meter and motor do not operate.



2. When the grip is installed on the camera, motor does not operate for high filming speed (36 or 72 F/S).



3. Synchronous sound recording cannot be made.



II DISASSEMBLY

1. Remove rubber cushion (8-51).

2. Remove leather (8-49) and leather (8-67).

3. Remove base plate assembly (8-52) after removing six screws (8-55).

4. Unsolder and disconnect lead wires extended from the main body assembly II (8-40) and lead wires extended from the tape control jack (8-45) which is soldered on the printed circuit board (8-3).

5. Remove plate (8-48).

6. Remove belt holder (8-68) after removing two screws (8-69)

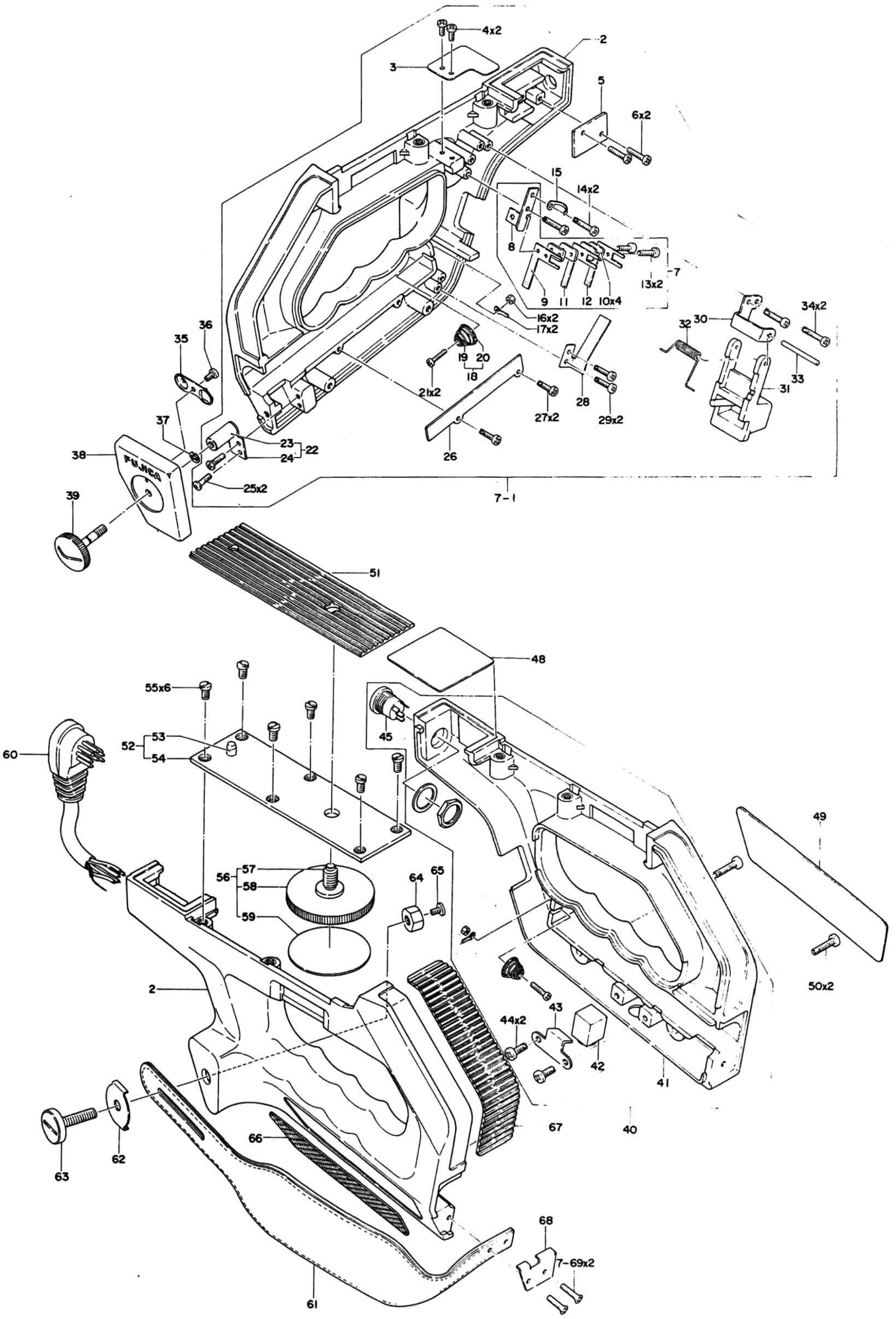
7. Remove two screws (8-50), and separate the main body assembly II (8-40) from the main body assembly I (8-1).

   NOTE: Adhesive is used between the main body I and main body II. To separtate them, use a screw driver.

8. Remove grip installation screw assembly (8-56).

9. Unsolder and disconnect lead wires extended from the contact piece assembly (8-7).

Fig. 1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27x2
29x2
FUJICA
25x2
7-1
55x6
44x2
50x2
7-69x2

10. Remove two screws (8-14) and remove contact piece assembly (8-7).

11. Remove two screws (8-34) and remove shutter release button.

12. Unsolder and disconnect lead wires extended from the DIN 8p plug (8-60) which is soldered on the printed circuit board (8-3).

13. Remove two screws (8-6) and holding plate (8-5), and pull out the DIN 8p plug (8-60).

14. Remove screw (8-65) and nut (8-64). Screw (8-63), belt holder (8-62) and belt (8-61) can then be removed.

15. Remove two nuts (8-16). Lugs (8-17) and terminal spring assemblies (8-18) can then be removed.

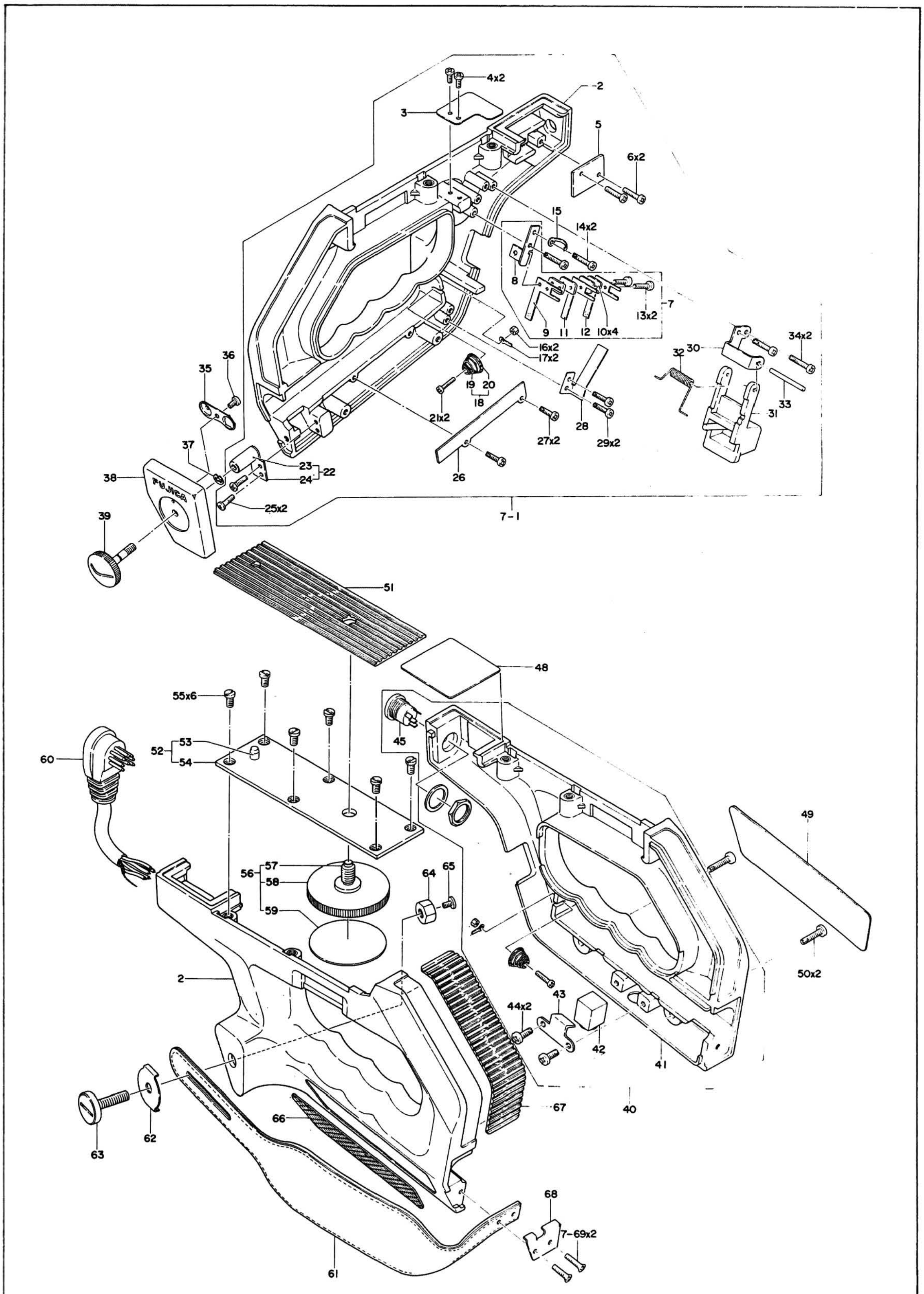
16. Remove two screws (8-44), and remove plate (8-43) and tripod socket (8-42).

17. Remove screw (8-36). Terminal plate (8-35) can be removed.

18. Remove two screws (8-27). Partition (8-26) can then be removed.

19. Loosen the tightening ring, and remove tape control jack (8-45).

Fig. 2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FUJICA
25x2
7-1
55x6
44x2
50x2
7-69x2

Ⅲ REPAIR AND ADJUSTMENT

1. Depression of the shutter release button on the grip does not cause the exposure meter circuit and motor circuit to operate.

1.1 Exposure meter circuit

Connect an ohmmeter to terminals No.6 and No.7 of the DIN 8p plug (8-60), depress the shutter release button lightly, and see if continuity exists.
When continuity exists, the exposure meter circuit is normal.
(No continuity should exist with other terminal.)

1.2 Motor circuit

Connect an ohmmeter to terminals No.5 and No.6 of the DIN 8p plug (8-60), depress the shutter release button lightly, and see if continuity exists.
When continuity exists, the motor circuit is normal.
(No continuity should exist with other terminal.)

1.3 When no continuity exists across terminals No.6 and No.7 or No.5 and No.6:

A. Remove the base plate assembly (8-52), and check the printed circuit board (8-3) to see if the lead wires have been soldered correctly.

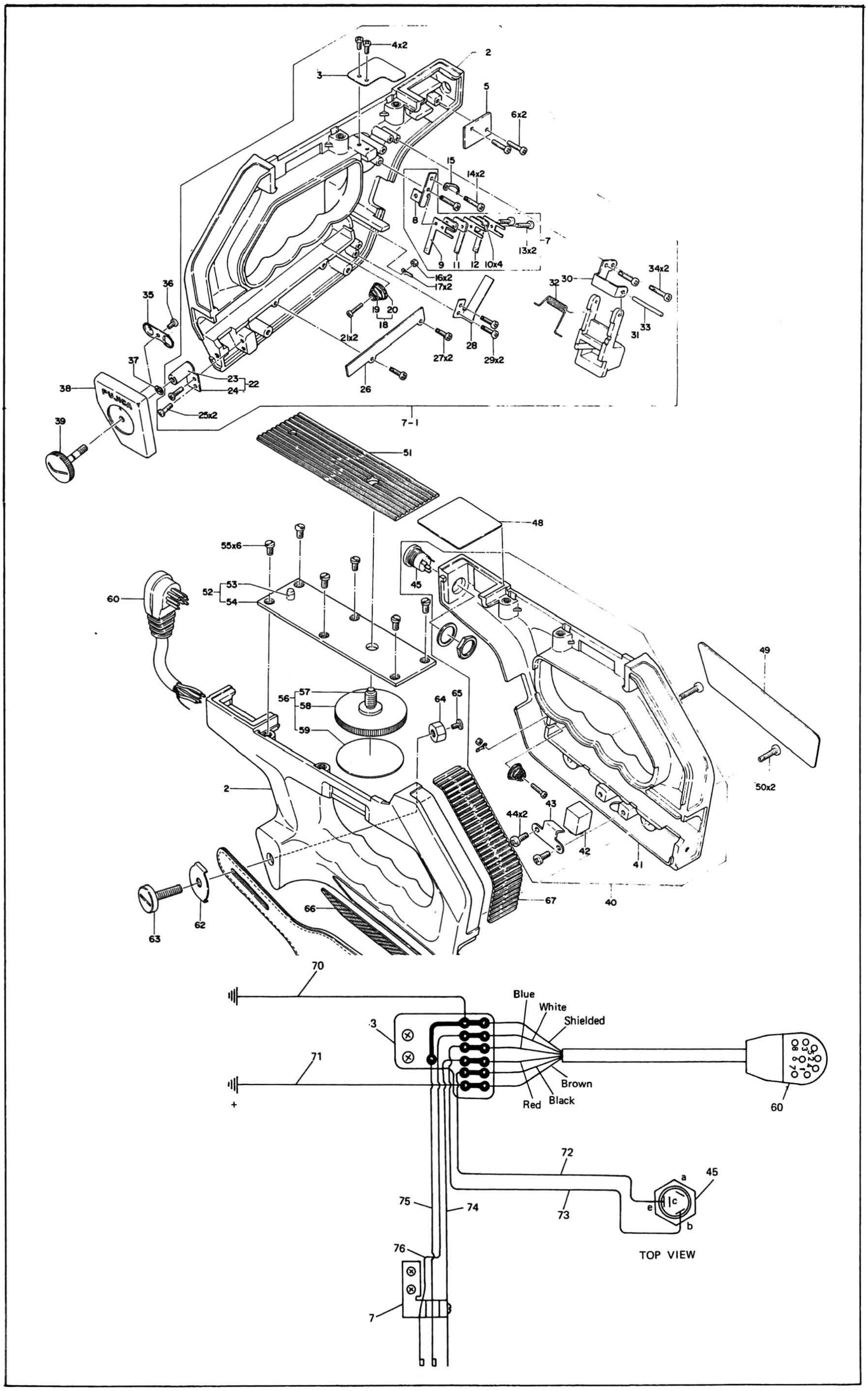
B. Check each terminal of the DIN 8p plug (8-60) and each lead wire for continuity.

C. Remove the main body assembly II (8-41), and see if lead wires are soldered on the contact pieces (8-9, 8-11 and 8-12) correctly.

D. Depress the shutter release button lightly, and see if the contact pieces (8-11 and 8-12) are in contact. Next, depress the shutter release button deeply, and see if the contact piece (8-9) is in contact with the contact pieces (8-11 and 8-12).

E. Check the contact pieces (8-9, 8-11 and 8-12) for contamination, rust, corrosion or other foreign matter.

Fig. 3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29x2
25x2
7-1
55x6
50x2
44x2
Blue
White
Shielded
+
Brown
Black
Red
a
e
c
b
TOP VIEW

2. Installation of the grip on the camera does not allow the camera to perform photographing at 36 F/S or 72 F/S

   2.1 Connect positive (+) and negative (-) termianls of a voltmeter respectively to No.1 and No.6 terminals of the DIN 8p plug (8-60), and measure voltage of the battery. The condition is normal when measured voltage is 5.5V or more.

   2.2 Check the DIN 8p plug (8-60) for existence of continuity across the terminals No.5 and 6 and No.6 and 7 by the use of an ohmmeter. (No continuity should exist with other terminal.)

   2.3 Remove the base plate assembly (8-52), and check the printed circuit board (8-3) to see if the lead wires have been soldered correctly.

   2.4 Check each terminal of the DIN 8p plug (8-60) and each lead wire for continuity.

   2.5 Remove the main body assembly II (8-41), and see if lead wires are soldered on the lugs (8-17) correctly.

   2.6 Check the terminal spring assemblies (8-18) for contamination, rust, corrosion and other foreign matter.

3. Synchronous sound recording cannot be made

   3.1 Connect an ohmmeter across terminal No.8 of the DIN 8p plug (8-60) and terminal d of the tape control jack (8-45) and see if continuity exists. When continuity exists, the condition is normal. (No continuity should exist with other terminal.)

   3.2 Connect an ohmmeter across terminal No.3 of the DIN 8p plug (8-60) and terminal b or the tape control jack (8-45) and see if continuity exists. When continuity exists, the condition is normal. (No continuity should exist with other termianl.)

3.3 Remove the base plate assembly (8-52), and see if the lead wire has been

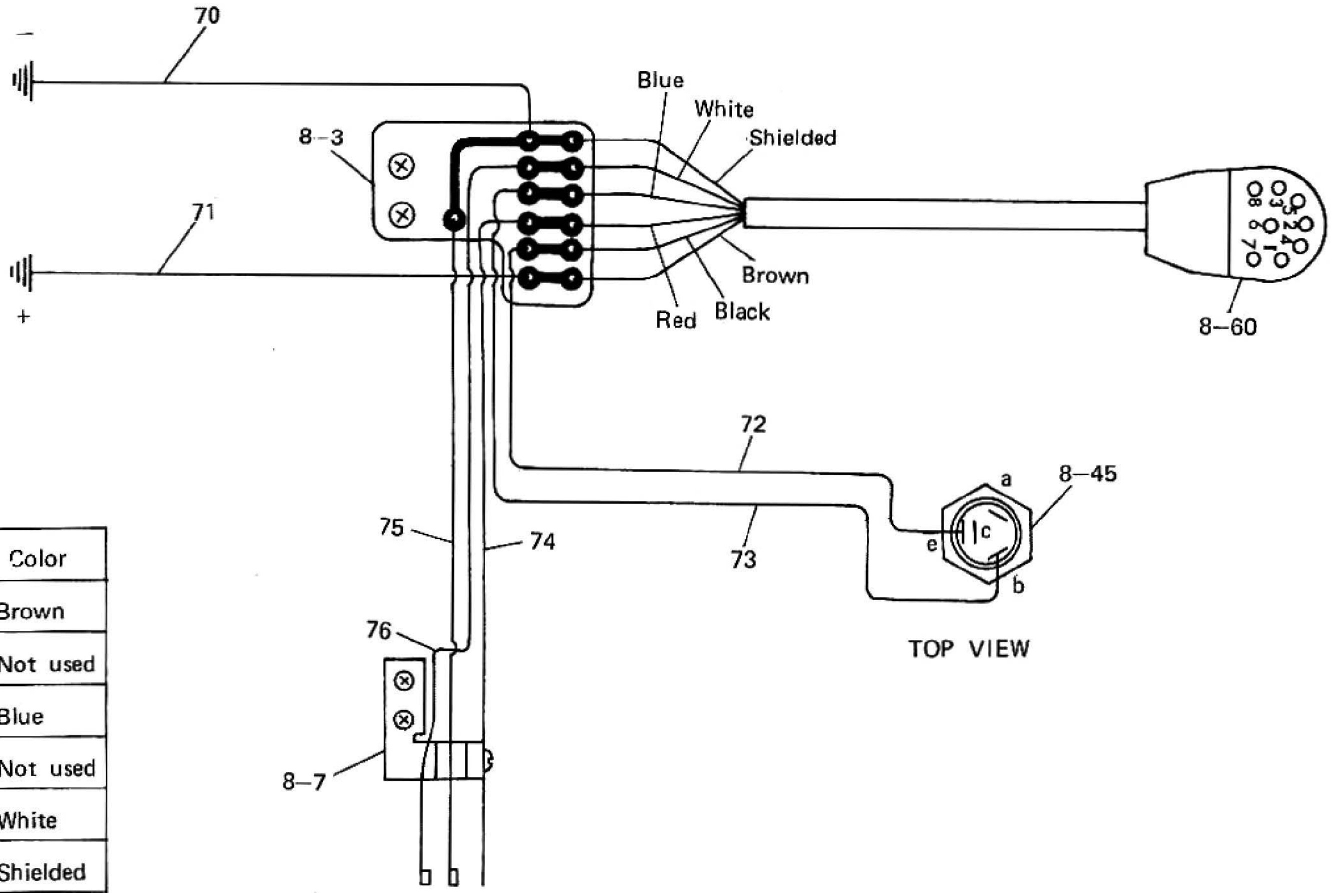
   3.3 Remove the base plate assembly (8-52), and see if the lead wire has been soldered on the printed circuit board (8-3) correctly.

   3.4 Check each terminal of the DIN 8p plug (8-60) and the lead wire connected to the terminal for continuity.

   3.5 Check the tape control jack (8-45) and see if lead wires have been soldered correctly on the individual terminals.

WIRING DIAGRAM FOR GRIP OF FUJICA ZC1000

Fig. 4



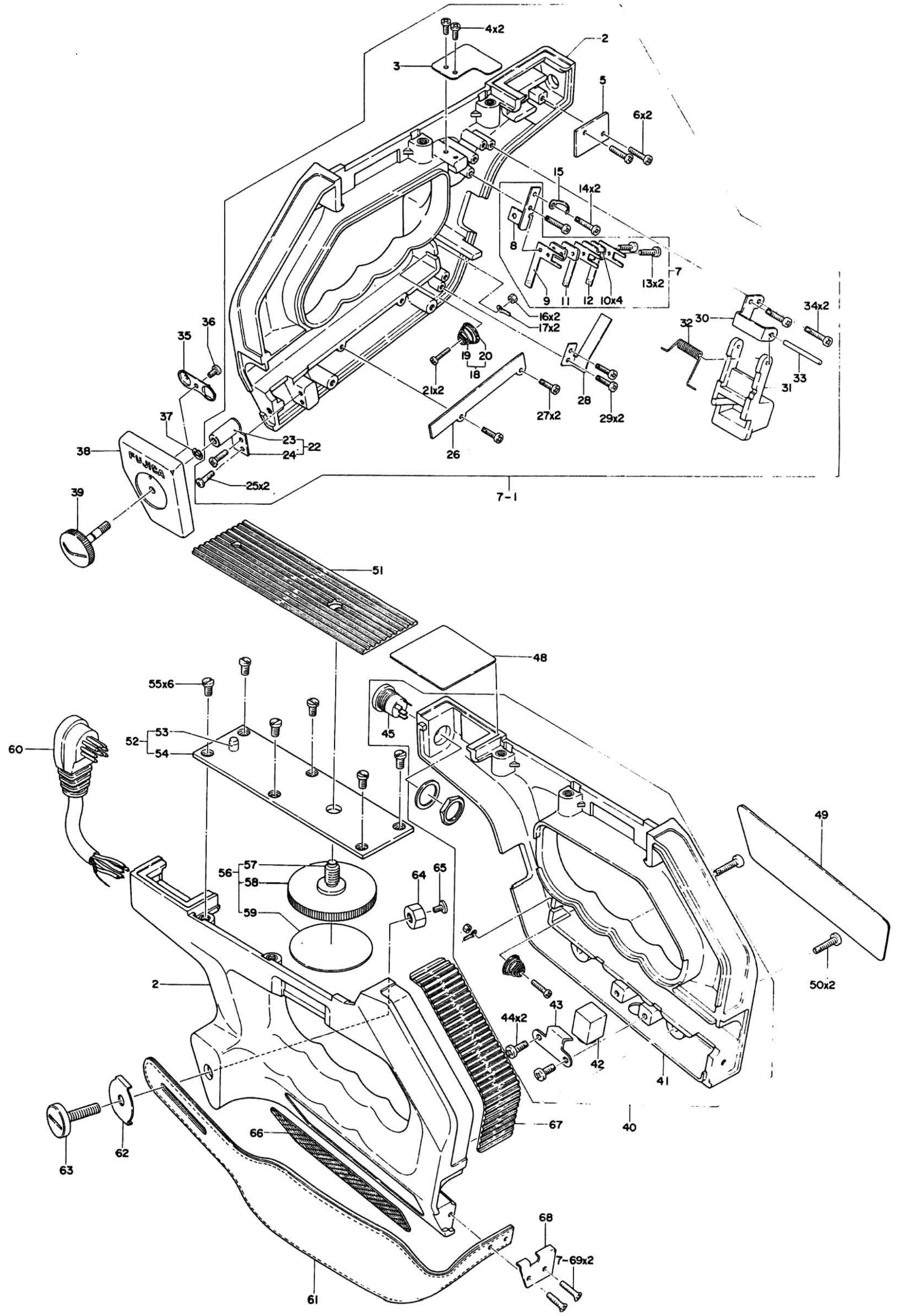
Terminal No.	Color
1	Brown
2	Not used
3	Blue
4	Not used
5	White
6	Shielded
7	Red
8	Black

INSPECTION

INSPECTION POINT	METHOD OF INSPECTION	REMARKS
	Install the grip on the camera, depress the shutter release button on the grip, and see if the exposure meter and motor operate normally.	
	Load the grip with four 1.5V penlight batteries, and see if the motor operates at 36 F/S and 72 F/S	

V PART LIST

Fig. 8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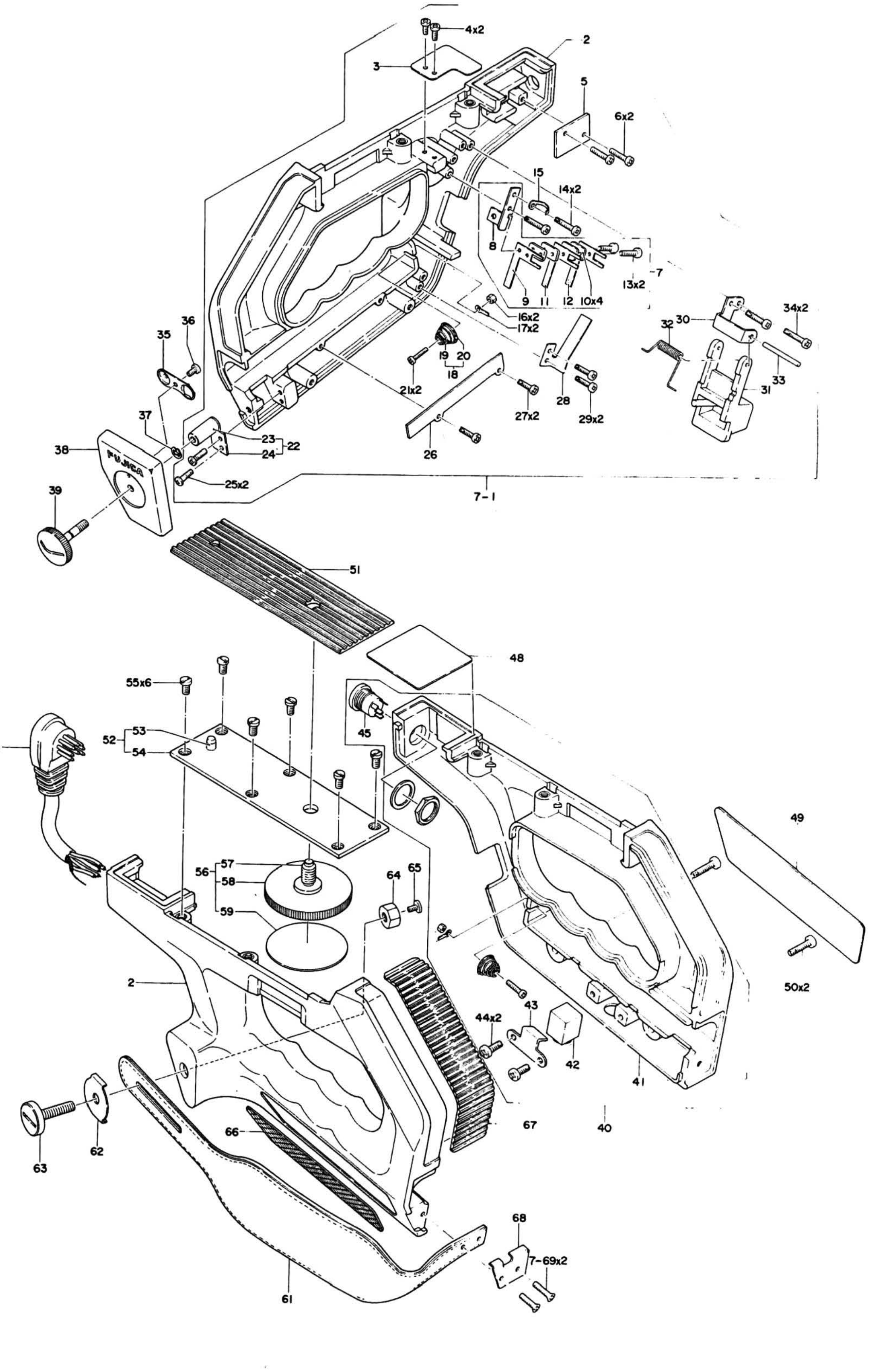
25x2
7-1
55x6
44x2
50x2
7-69x2

Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
8- 1	10A845950	Main body assembly I	8-2, 8-3, 8-4$^{\times 2}$, 8-5, 8-6$^{\times 2}$, 8-7, 8-14$^{\times 2}$, 8-15, 8-16$^{\times 2}$, 8-17$^{\times 2}$, 8-18, 8-21$^{\times 2}$, 8-22, 8-25$^{\times 2}$, 8-26, 8-27$^{\times 2}$, 8-28, 8-29$^{\times 2}$, 8-30, 8-31, 8-32, 8-33, 8-34$^{\times 2}$, 8-60	1	
8- 3	110B845800	Printed circuit board		1	
8- 4	113M 200501S	Screw		2	
8- 5	85B845770	Holding plate		1	
8- 6	142M 200802S	Screw		2	
8- 7	85A845990	Contact piece assembly	8-8, 8-9, 8-10$^{\times 4}$, 8-11, 8-12, 8-13$^{\times 2}$	1	
8- 8	85B845660	Base plate		1	
8- 9	109A357960	Contact piece		1	
8-10	115B98230	Insulator		4	
8-11	109A357950	Contact piece		1	
8-12	109A357940	Contact piece		1	
8-13	53K15320	Screw		2	
8-14	142M 200802S	Screw		2	
8-15	111B24300	Cord holder		1	
8-16	150M0171E	Nut		2	
8-17	108B356620	Lug		2	
8-18	109A9910	Terminal spring assembly	8-19, 8-20	2	
8-21	110M 170501N	Screw		2	
8-22	85A845970	Mount base assembly	8-23, 8-24	1	

Fig. 8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7-1
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50x2
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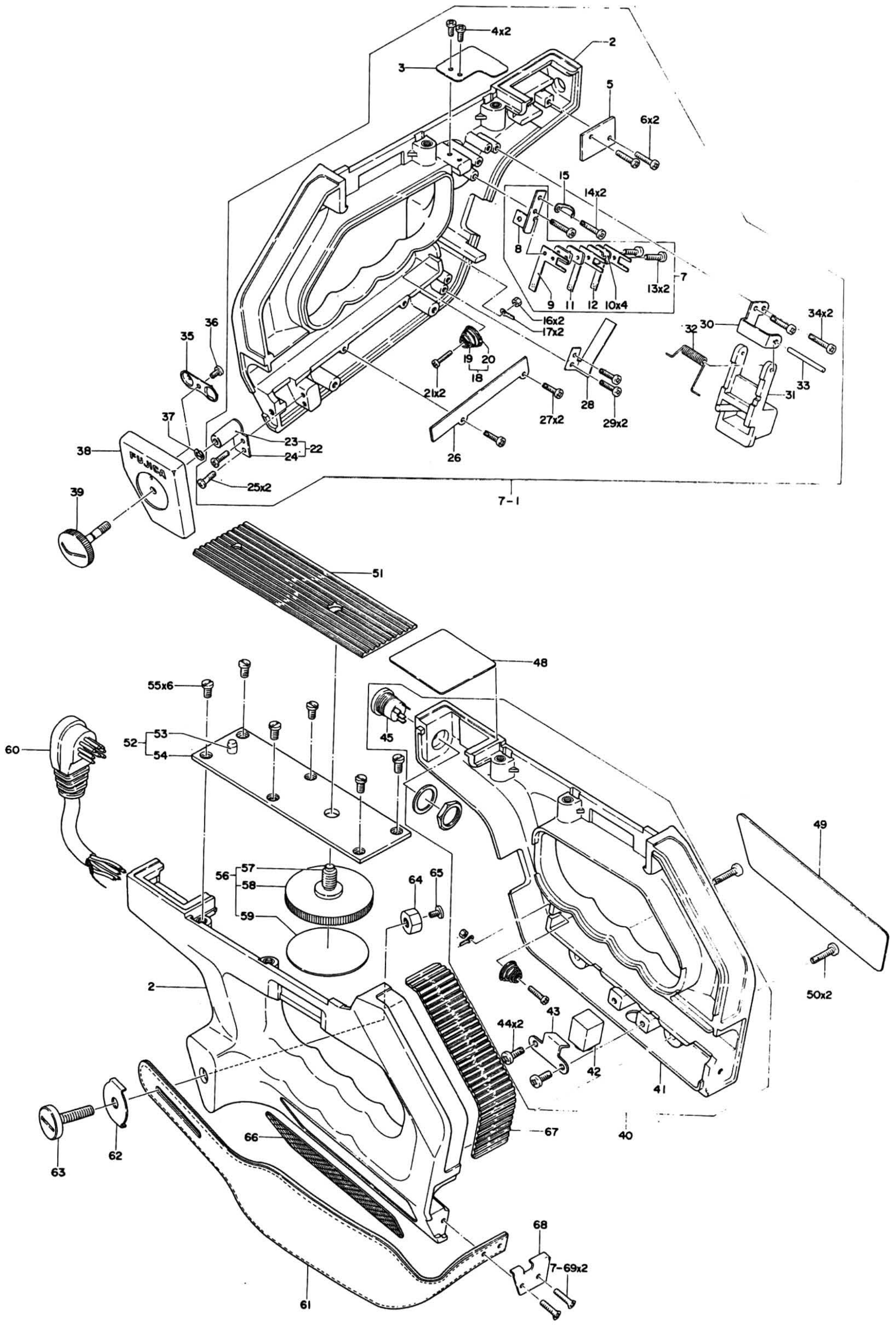
7-69x2

Ref No.	Part No.	Part Name	Assebmled Ref No.	O'ty	Remarks
8-25	142M 200502S	Screw		2	
8-26	72B845740	Partition		1	
8-27	113M 200501S	Screw		2	
8-28	50B845620	Leaf spring		1	
8-29	142M 200502S	Screw		2	
8-30	85B845590	Mount base		1	
8-31	16B845580	Shutter release button		1	
8-32	50B846630	Spring		1	
8-33	32B845610	Shaft		1	
8-34	142M 200802S	Screw		2	
8-35	109B14550	Terminal plate		1	
8-36	113M 170301C	Screw		1	
8-37	191M020H	E-clip		1	
8-38	57B845640	Battery compartment cover		1	
8-39	53B845650	Screw		1	
8-40	10A846020	Main body assembly II	8-41, 8-42, 8-43, 8-44$^{\times 2}$, 8-45	1	
8-42	53B845680	Tripod socket		1	
8-43	85B845690	Plate		1	
8-44	142M 260801S	Screw		2	
8-45	112K846030	Tape control jack		1	
8-48	58B845791	Plate		1	
8-49	59B845850	Leather		1	

Fig. 8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7-69x2

Ref No.	Part No.	Part Name	Assembled Ref No.	O'ty	Remarks
8-50	142M 201202S	Screw		2	
8-51	51B845820	Rubber cushion		1	
8-52	46A846040	Base plate assembly	8-53, 8-54	1	
8-55	53B845870	Screw		6	
8-56	16A846000	Grip installation screw assembly	8-57, 8-58, 8-59	1	
8-59	58B845790	Cover plate		1	
8-60	113B845880	DIN 8p plug		1	
8-61	150B845770	Belt		1	
8-62	85B845730	Belt holder		1	
8-63	53B845750	Screw		1	
8-64	150M0401E	Nut		1	
8-65	53B24240	Screw		1	
8-66	58B845840	Leather		1	
8-67	59B845830	Leather		1	
8-68	85B845700	Belt holder		1	
8-69	114M 201201S	Screw		2	
8-70	111B845920	Lead wire		1	
8-71	111B845910	Lead wire		1	
8-72	111B845970	Lead wire		1	
8-73	111B845960	Lead wire		1	
8-74	111B845950	Lead wire		1	
8-75	111B845930	Lead wire		1	
8-76	111B845940	Lead wire		1	

EBC FUJINON MA・Z 1.8/7.5 - 75 mm
LENS ZC1000

I DISASSEMBLY 1

1. MACRO MECHANISM 1
2. APERTURE ASSEMBLY 1
3. HELICOID ASSEMBLY 3
4. ZOOMING MECHANISM ASSEMBLY 3

II REPAIR AND ADJUSTMENT 5

1. ADJUSTMENT OF FOCUS 5
    - 1.1 Adjustment of focus movement 5
    - 1.2 Adjustment of flangeback 5
    - 1.3 Adjustment of optical axis 7
2. MACRO SYSTEM 9
3. APERTURE 11
4. HELICOID 13
5. ZOOMING 15

III PART LIST 18

I DISASSEMBLY

1. Macro mechanism

(a) Loosen the screw (111) and remove the cover ring (109)

NOTE: When no screw (111) is used, apply ketone to the adhered section to solve the adhesive.

(b) Remove four screws (107) and remove the C-mount ring (108).

(c) Remove the master lens assembly (97) and spring (96).

(d) Remove the stationary lens assembly (90).

(e) Remove four screws (77) and remove the stationary ring (76).

(f) Remove the stopper pin (64) and guide pin assembly (65), and remove the macro focusing ring assembly (68).

NOTE: Be sure to remove the macro focusing ring assembly (68) with the knob (73) pulled.

(g) Remove the moving ring (67).

(h) Remove three screws (59) and three screws (52), and remove the lens (63).

2. Aperture assembly

(a) Disassemble the macro mechanism as described in 1-(a) through (h) above.

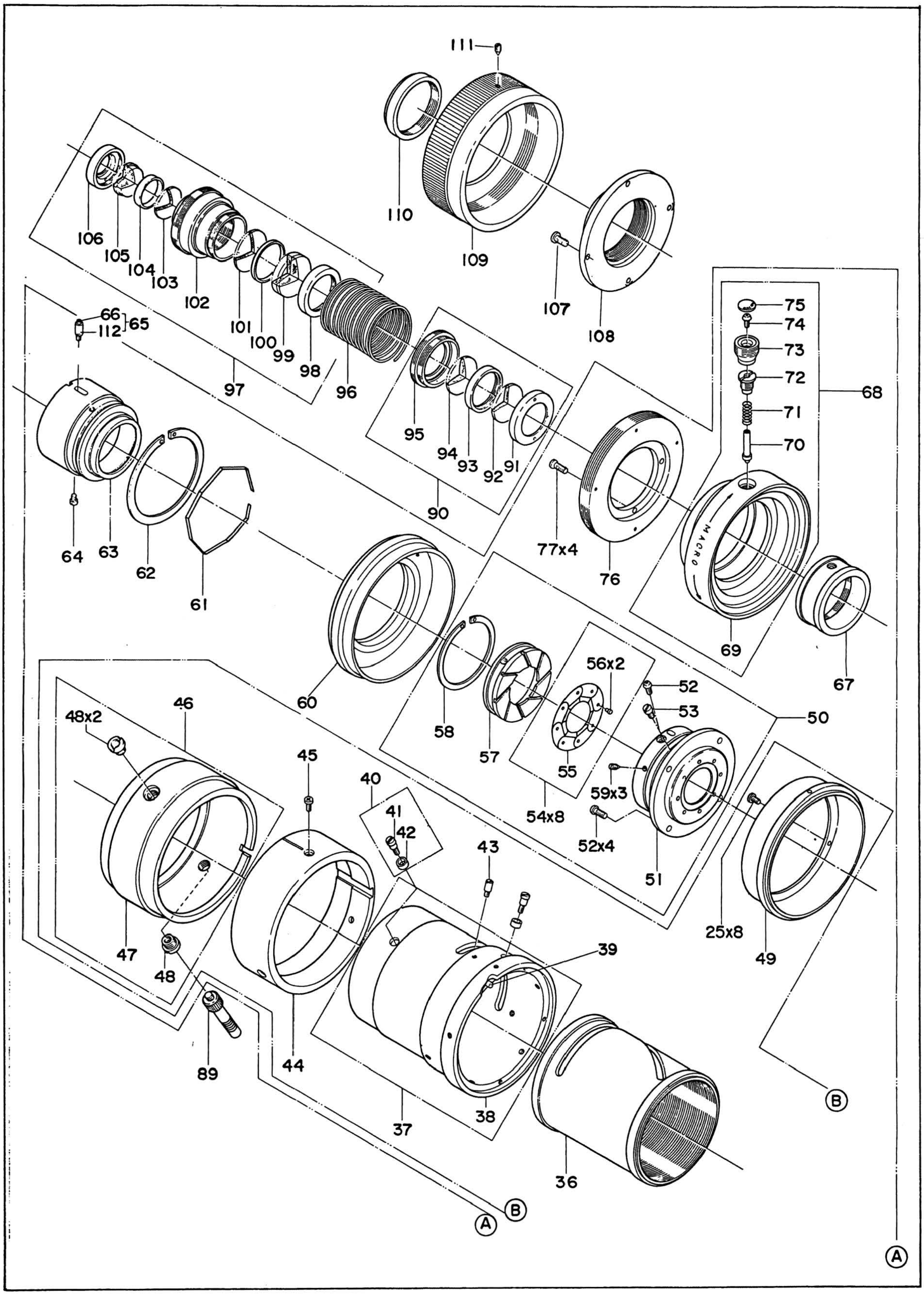
(b) Remove the C-clip (62), and remove the aperture scale ring (60) together with the spring (61).

(c) Remove four screws (52) and remove the aperture assembly (50).

(d) Remove the pin (53) and C-clip (58), and remove the aperture seat (57) and aperture blade assembly (54).

NOTE: Carefully handle the aperture blade assembly (54).

Fig. 1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MACRO
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3. Helicoid assembly

(a) Loosen three screws (5), and remove the focusing ring assembly (2).

(b) Remove five screws (22), and remove the helicoid assembly (15) together with hold ring (6), G1 lens (7), spacer (8), G2 lens (9), spacer (10), G3 lens (11), spacer (12) and G4 lens (13).

(c) Remove two screws (22) and remove stopper (20).

(d) Remove the front ring (16) together with the hold ring (6) through G4 lens (13).

4. Zooming mechanism assembly

(a) Disassemble as described in 2-(a) through (c).

(b) Disassemble as described in 3-(a) and (b) above, and remove the zooming mechanism assembly (23) together with the rear lens assembly (85) and front lens assembly (78).

(c) Remove the rear lens assembly (85) and front lens assembly (78) from the zooming mechanism assembly (23).

(d) Remove three screws (25), and remove the index ring (49) and zoom scale ring (47).

(e) Remove three screws (45), and remove the index ring (44).

(f) Remove the interlock pin (43).

(g) Remove two guide pin assemblies (40).

NOTE: 1. With the front lens assembly set in the fore most position (WIDE condition), use the hole on the stationary barrel (38).

2. Be sure to use the two guide pin assemblies (40) for the places from which the individual guide pin assemblies are removed.

3. When it is hard to remove the guide pin assemblies (40), heat them with a soldering iron. When removing the guide pin assemblies (40), be careful not to damage the bushings (42).

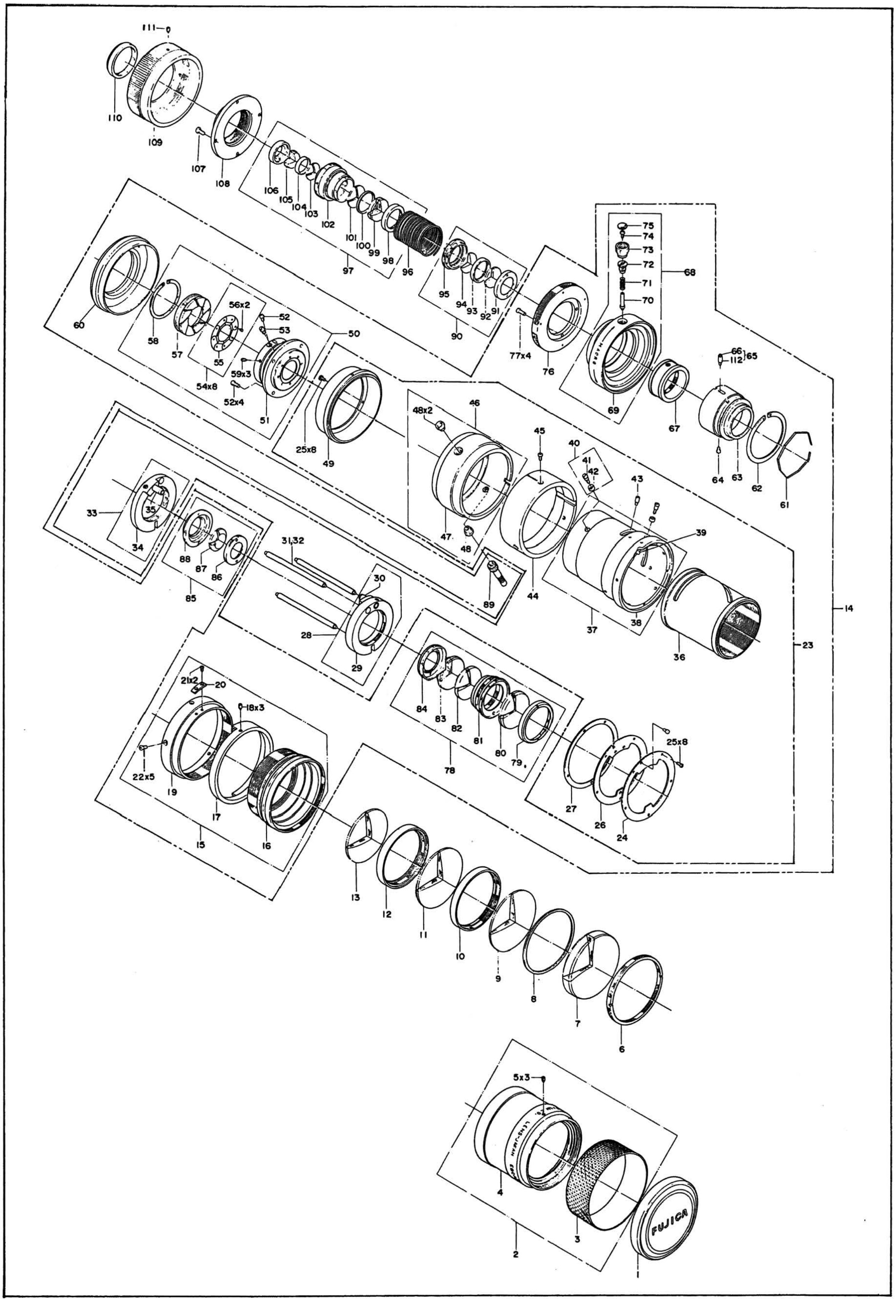
(h) Remove five screws (25), and remove the light shielding plate (24) together with positioning plate (26) and adjust washer (s) (27).

NOTE: Zero to three washers are used depending upon each case.

(i) Remove the front moving frame assembly (28) and rear moving frame assembly (33).

NOTE: Remain the guide bars (31 and 32) used for the front moving frame assembly (28) and rear moving frame assembly (33) paired individually so that the original condition can be maintained.

Fig. 2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FUJICA

Ⅱ REPAIR AND ADJUSTMENT

1. Adjustment of focus

1.1 Adjustment of focus movement

(a) Install the lens on a collimater, set the zoom scale ring (47) to "wide", fully open the lens, and focus.

NOTE: Be sure to observe the lens at the horizontal position.

(b) Turn the zoom scale ring (47) to "tele", turn the front ring (16) and focus again.

(c) Turn the zoom scale ring (47) from "tele" to "wide" and from "wide" to "tele", and check the focus for movement. The movement should be 0.02 or less.

(d) Loosen three screws (18), apply the stopper ring (17) to the stopper (20), and retighten the screws (18).

NOTE: Out of three screws (18), one should be sunk into the helicoid ring (19). Lock the screws with screw locking agent.

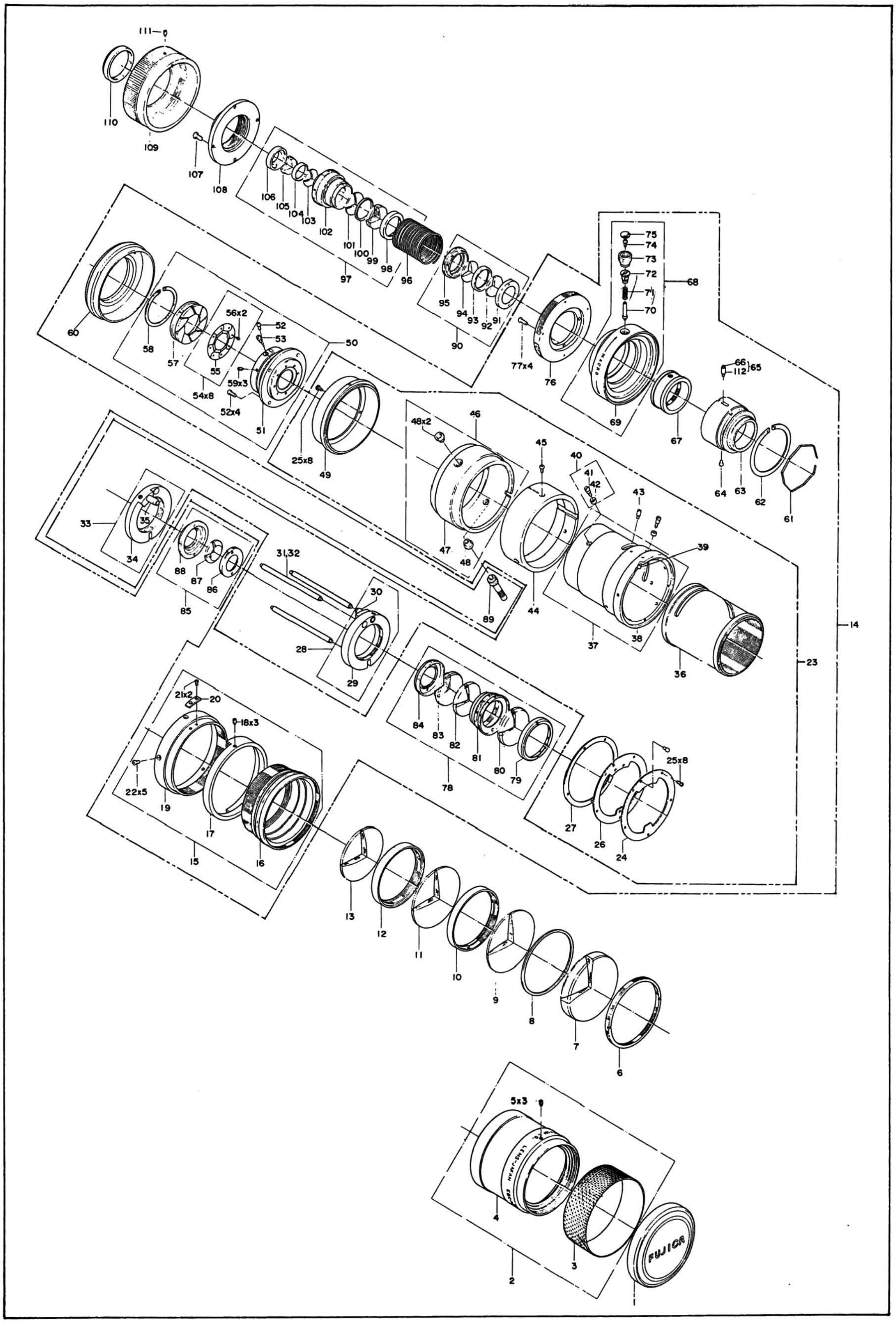
1.2 Adjustment of flangeback

(a) Check the lens for focus movement as described in 1.1 above.

(b) Read out deviation of flangeback on the collimater, and adjust this deviation by grinding the C-mount ring (108). (The surface to be ground is indicated by asterisk (*).)

NOTE: Read out focus position in advance by the use of a standard lens, and measure deviation by comparing the reading on the collimater with the standard focus position.
Be sure to observe the lens at the horizontal position.

Fig. 3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1.3 Adjustment of optical axis

(a) Check the lens for focus movement as described in 1.1 above.

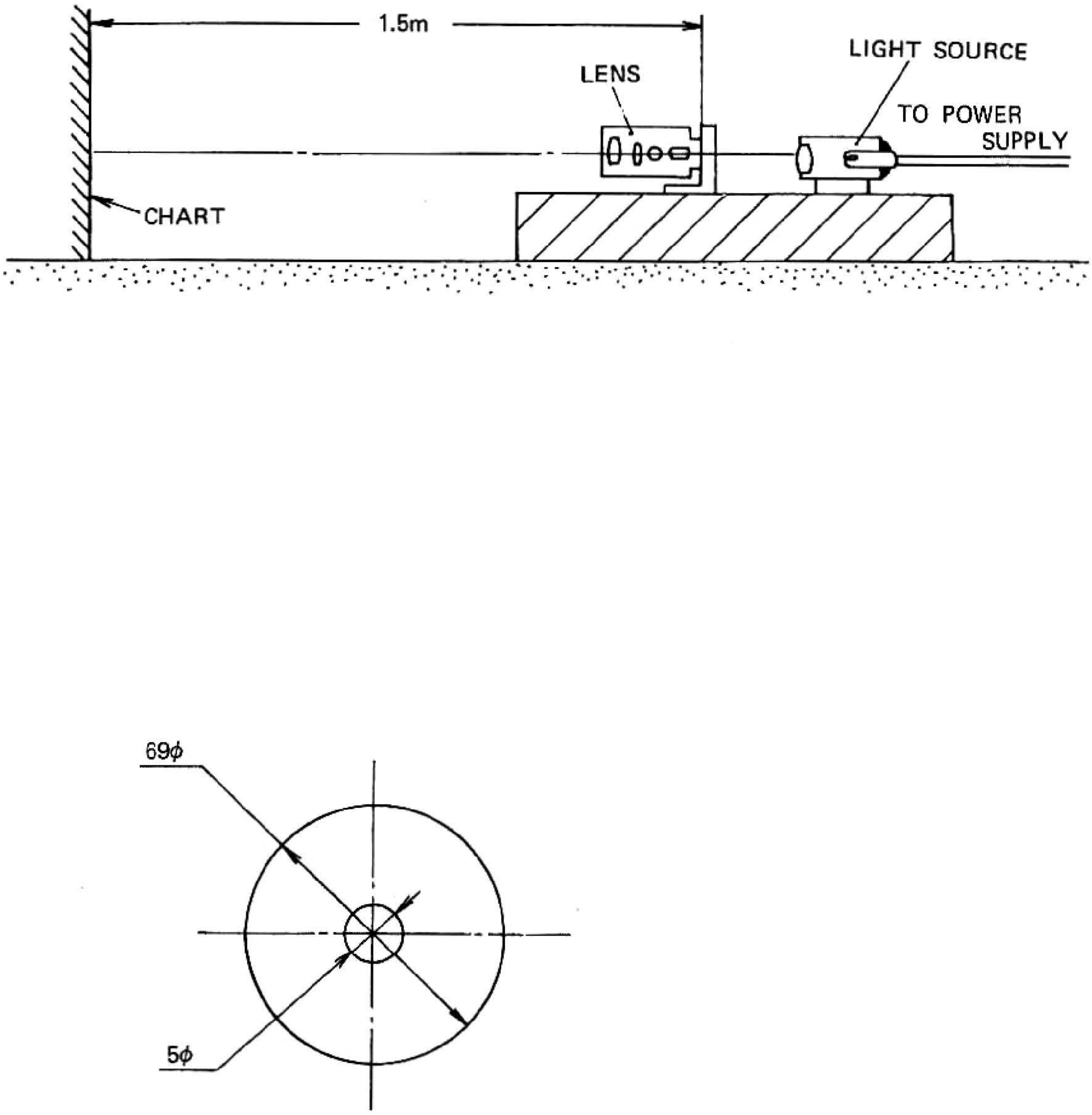
(b) Check the lens for flangeback as described in 1.2 above.

(c) Install the lens on an optical axis adjuster, fully open the lens and set distance to 1.5 m.

(d) Apply light to the chart throught the lens as seen in the figure and adjust center of the lens against the thread of the C-mount ring (108) so that the projected light circle is in a 69 mm diameter circle when the lens is set to "wide" and in a 5 mm diameter circle when the lens is set to "tele".

NOTE: Before adjusting optical axis, loosen four screws (104). When the adjustment is completed, be sure to retighten and lock the screws (104) with screw locking agent.

Fig. 4



OPTICAL AXIS ADJUSTER

CHART

2. Macro system

(a) Disassemble as described in I-1-(a) through (h) above.

(b) Check the macro focusing ring assembly (68) for fitting with the lens (63) and the lens (63) for fitting with the moving ring (67). Further, check the key groove on the lens (63), guide pin assembly (65), and cam groove of the macro focusing ring assembly (68).

(c) For reassembly, the following instructions apply:

1. Install the lense barrel (63) with the three screws (59) and secure it with pin (52).

   NOTE: Secure the lens barrel at a position where the key groove on the lens is faced toward 12 O'clock direction.

2. Pull the knob (73), drop the stopper (70) into the groove on the lens (63), and thus, install the macro focusing ring assembly (68).
   For grease, use Losoid grease (5057).

3. Fit the moving ring (67) to the lens (63), and screw the guide pin assembly (65) into the moving ring (67) from the cam groove of the macro focusing ring assembly (68).

   NOTE: Use Araldite to lock the thread.

4. Carefully select position and install the stationary ring (76) with screws.

   NOTE: Lock the screw with screw locking agent.

5. Install the spring (96) and master lens assembly (97), and check the macro system to insure that it operates correctly.

6. Install the C-mount ring (108) with screws.

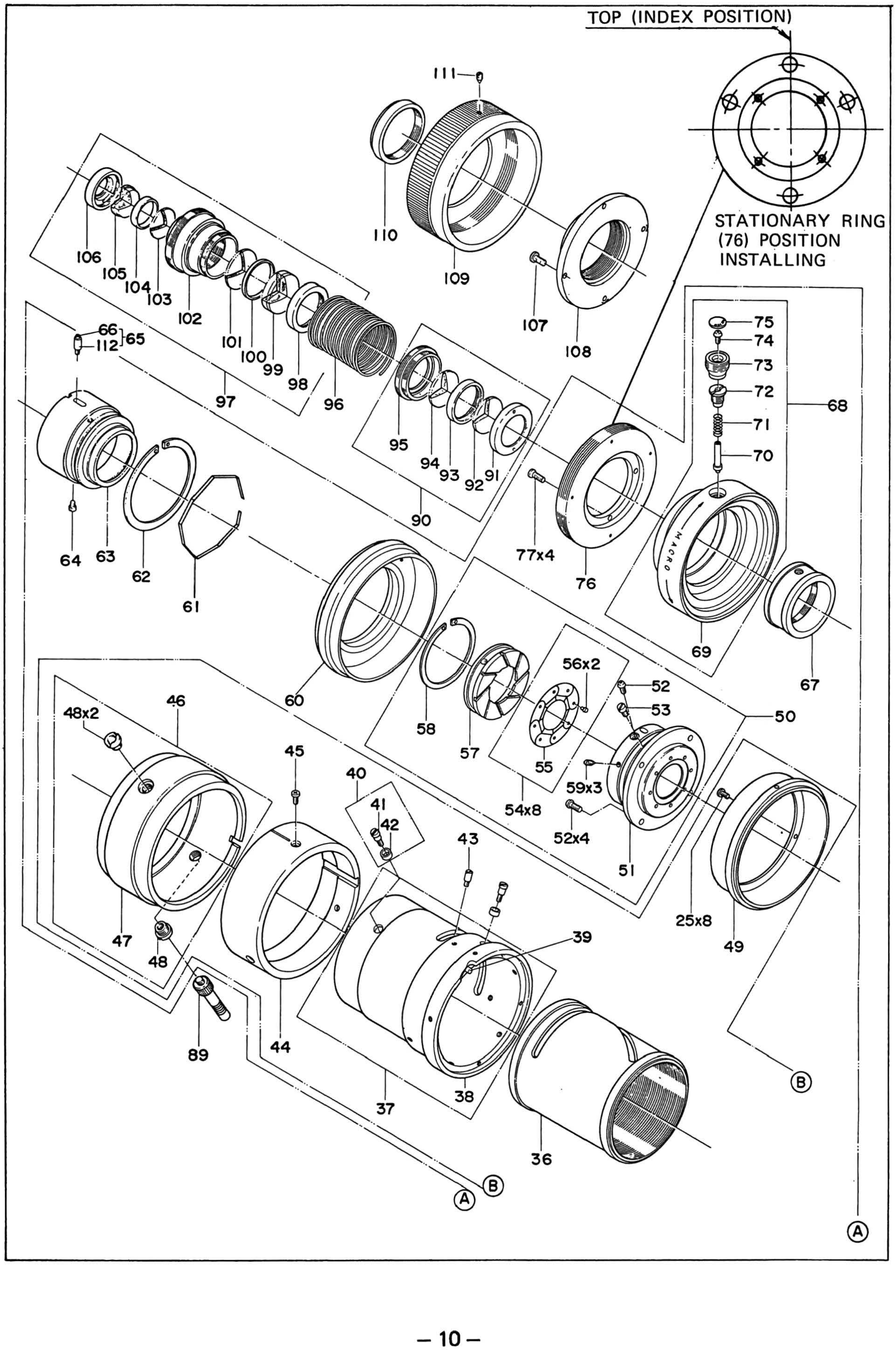
7. Check the lens for flangeback. (Refer to II-1-1.2)

8. Check and adjust optical axis of the lens. (Refer to II-1-1.3)

9. Install the cover ring (109) by screwing, and secure it with the screw (111).

   NOTE: Lock the screw with screw locking agent.

Fig. 5


TOP (INDEX POSITION)
STATIONARY RING
(76) POSITION
INSTALLING
77x4
MACRO
56x2
54x8
59x3
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25x8
48x2
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B
A
A
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3. Aperture

(a) Disassemble as described in I-2-(a) through (d) above.

(b) Check the aperture seat (57) and aperture scale ring for their operating conditions.

(c) For reassembly, the following instructions apply:

1. Install the aperture blade assembly (54) on the aperture seat (57) and secure it with C-clip (58).
2. Install the pin (53).
3. Install the aperture scale ring.

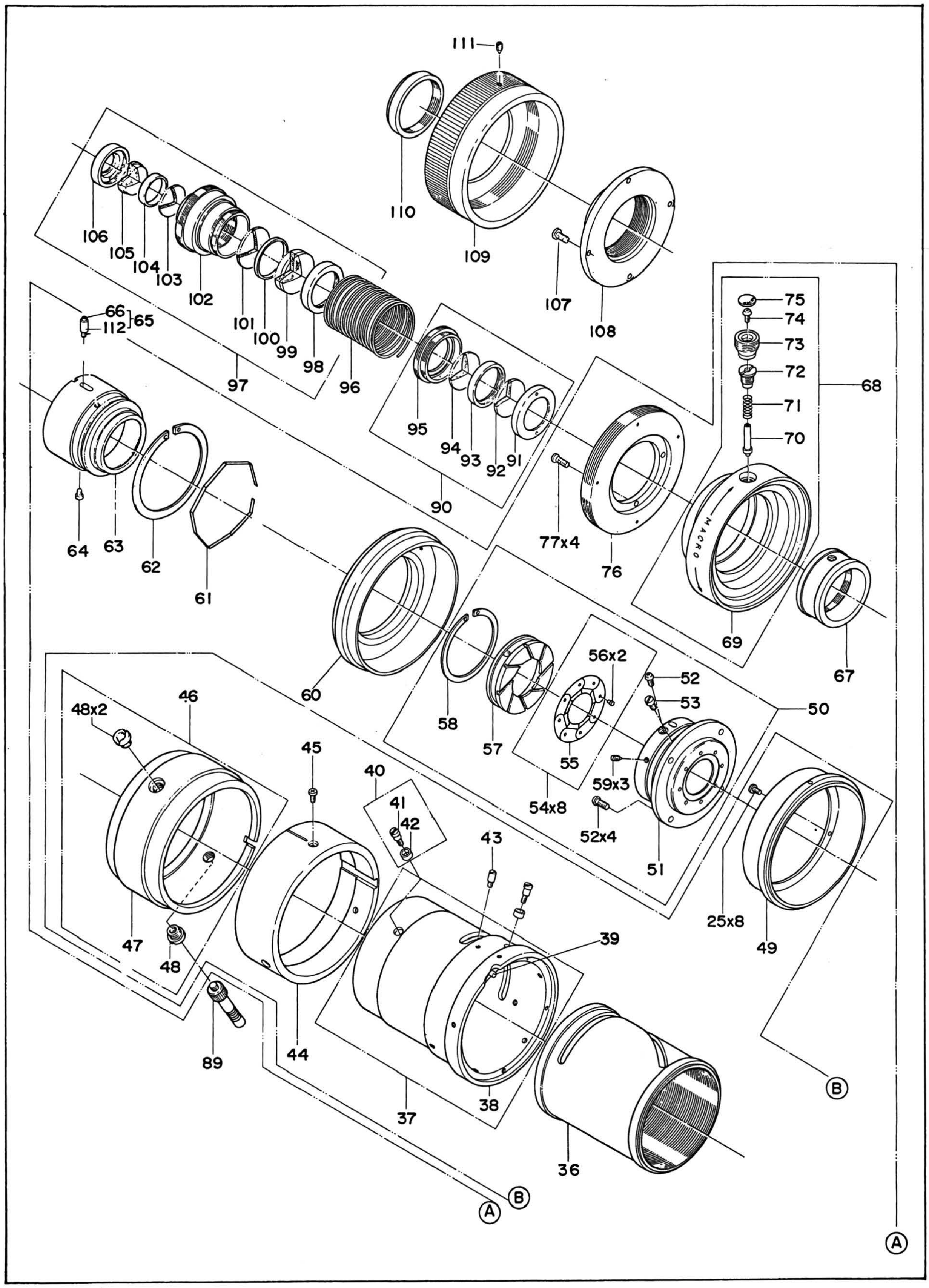
   NOTE: For grease, use Losoid grease (5019).

4. Install the spring (61), and secure it with C-clip.

   NOTE: To adjust operating torque of the aperture scale ring (60), properly bend the spring (61). The rated operating torque is 300 to 900 g-cm.

5. For steps hereafter, refer to II-2-(c) above.

Fig. 6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4. Helicoid

(a) Disassemble as described in I-3-(a) through (c) above.

NOTE: Before removing the front ring (16) and helicoid ring (19), tighten them fully, and mark them with lines so that the same helicoid threads are intermeshed again at the time of reassembly.

(b) Check the front ring (16) and helicoid ring (19) for conditions of the helicoid threads.

NOTE: For helicoid grease, use Losoid grease (6304/4).

(c) Install the helicoid assembly (15) on the stationary barrel assembly (37) with five screws (22).

NOTE: Tighten all five screws (22) evenly and properly so that the helicoid operates smoothly.
Lock the screws with screw locking agent.
When the helicoid assembly (15) is installed, check it to see if it operates smoothly.

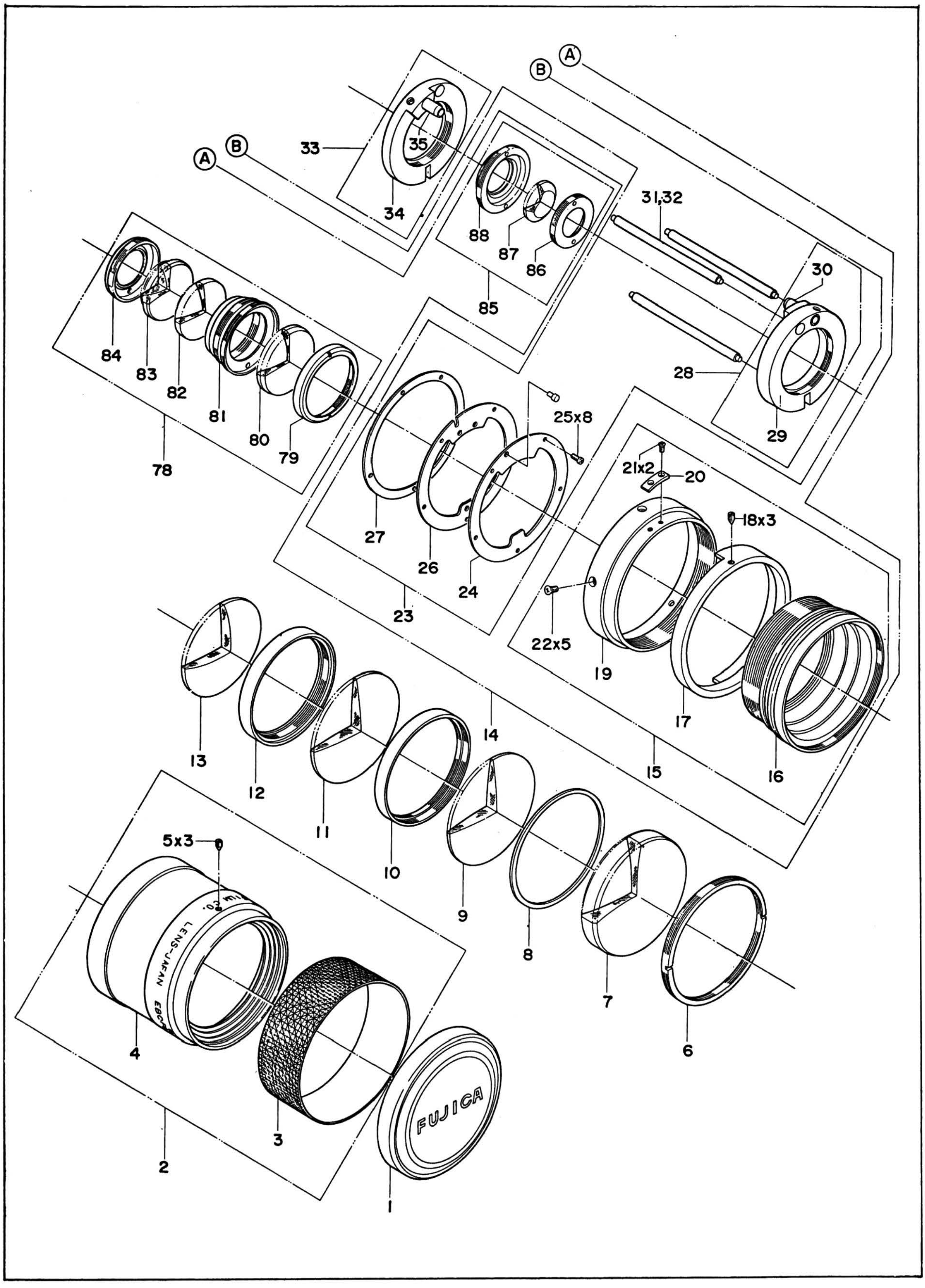
(d) Adjust focus movement. (Refer to II-1-1.1)

(e) Check flangeback. (Refer to II-1-1.2)

(f) Install the focusing ring assembly (2) with screws.

NOTE: Lock the screws with screw locking agent.

Fig. 7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5. Zooming

(a) Disassemble as described in I-4-(a) through (d) above.

(b) When the zooming is unsmooth due to deformation of the zoom scale ring (47), replace the zoom scale ring (47) with a new one.
When the mechanism within the stationary barrel (38), is defective causing unsmooth zooming, replace the zooming mechanism assembly (23) with a new one. Slackness or tilting of the zooming mechanism assembly (23) is severly prohibited because it greatly affects focusing and resolution.

(c) For reassembly, the following instructions apply:

1. Install the index ring (44) with screws so that the index line is faced to the top, and lock the screws with screw locking agent.
2. Install the zoom ring (47) and secure the index ring (49) with screws (25).

   NOTE: Use Losoid grease (5019) for grease. With the index mark faced 12 O'clock high, lock the screws with screw locking agent. See if the zooming is smooth.

3. Install the aperture assembly (50) with screws correctly on its position.
4. Install the aperture scale ring (60).

   NOTE: For grease, use Losoid grease (5019).

5. Install the spring (61), and hold it down with C-clip (62).

   NOTE: To adjust operating torque of the aperture scale ring (60), properly bend the spring (61). The ideal operating torque is from 300 to 900 g-cm.

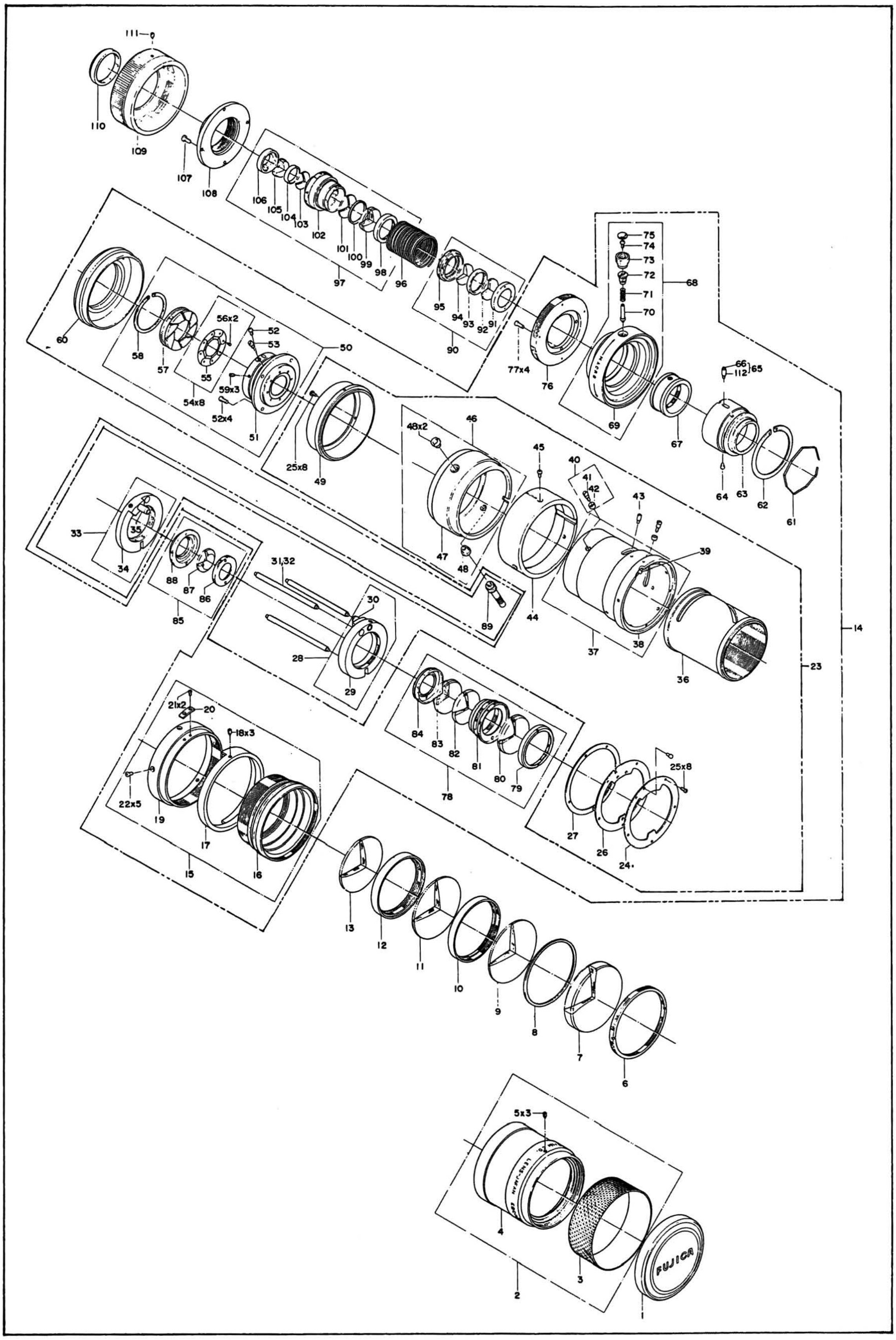
6. Install the remaining parts as described in II-2-(c)-1 through 6.
7. Install the rear lens assembly (85) and front lens assembly (78).
8. Install the helicoid assembly (15) together with hold ring (6), G1 lens (7), spacer (8), G2 lens (9), spacer (10), G3 lens (11), spacer (12) and G4 lens (13), and secure them with screws.
9. Adjust movement of focus. (Refer to II-1-1.1 above.)
10. Adjust flangeback. (Refer to II-1-1.2 above.)
11. Adjust optical axis. (Refer to II-1-1.3 above.)
12. Install the focusing ring assembly (2) with screws.

    NOTE: Be sure to lock the screws with screw locking agent.

13. Install the cover ring (109) by screwing it, and secure it with the screw (111).

    NOTE: Be sure to lock the screw with screw locking agent.

Fig. 8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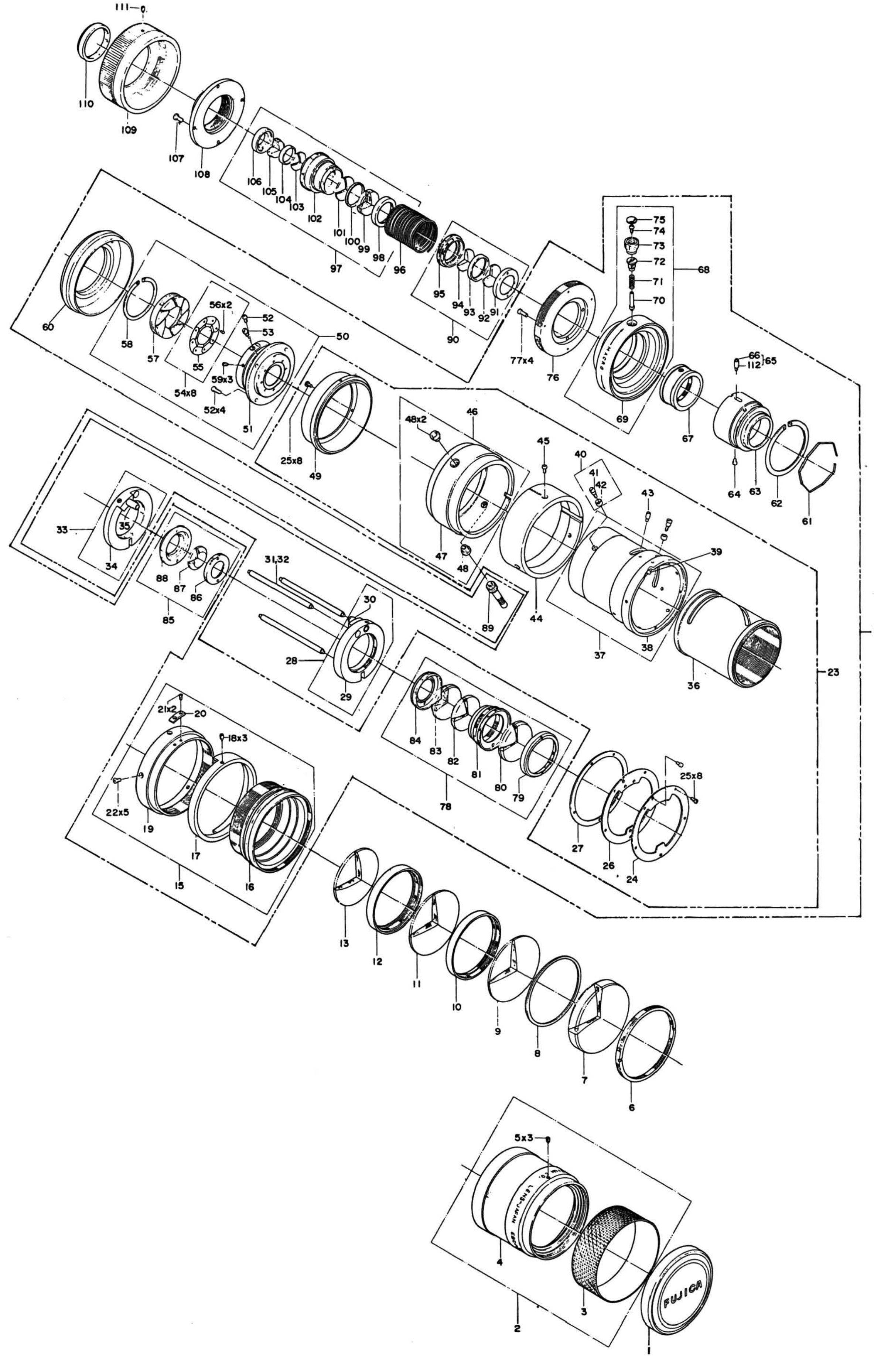
PART LIST

PARTS LIST
EBC FUJINON MA • Z 1.8/7.5 - 75 mm LENS ZC1000



Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
1	57B72632	Lens cap		1	
2	23A843950	Focusing ring assembly	3, 4, $5^{\times 3}$	1	
3	59B1217310	Rubber ring		1	
4	23B323920	Focusing scale ring		1	
5	120M 230351S	Screw		3	
14	21A843900	Lens barrel assembly	15, 16, $22^{\times 5}$, $52^{\times 4}$, $59^{\times 3}$, 60, 61, 62, 63, 64, 65, 67, 68, 76, $77^{\times 4}$	1	
15	21A843880	Helicoid assembly	16, 17, $18^{\times 3}$, 19, 20, $21^{\times 2}$	1	
17	23B323930	Stopper ring		1	
18	120M 230351S	Screw		3	
20	87B323130	Stopper		1	
21	111M 200251S	Screw		2	
22	111M 200453S	Screw		5	
23	21A843870	Zooming mechanism assembly	24, $25^{\times 8}$, 26, 27, 28, $31^{0\sim 3}$, $32^{0\sim 3}$, 33, 36, 37, $40^{\times 2}$, 43, 44, $45^{\times 3}$, 46, 49	1	
24	27B324110	Light shielding plate		1	
25	110M 170351S	Screw		8	
26	23B322750	Positioning plate		1	
27	55B322980	Adjust washer		0 ~ 3	
28	21A843830	Front moving frame assembly	29, 30	1	
31	32B324130	Guide bar		0 ~ 3	
32	32B324140	Guide bar		0 ~ 3	

PARTS LIST
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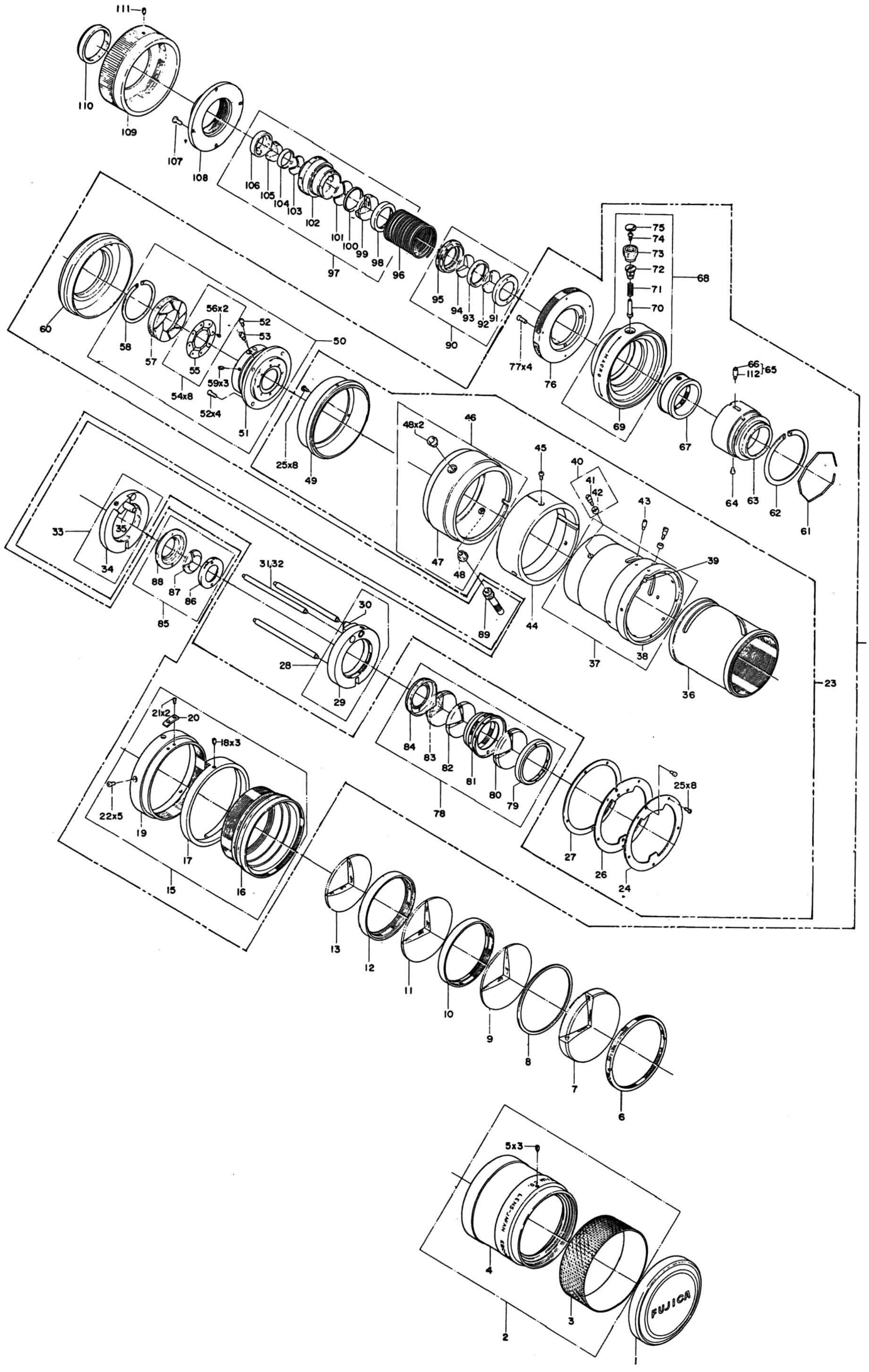
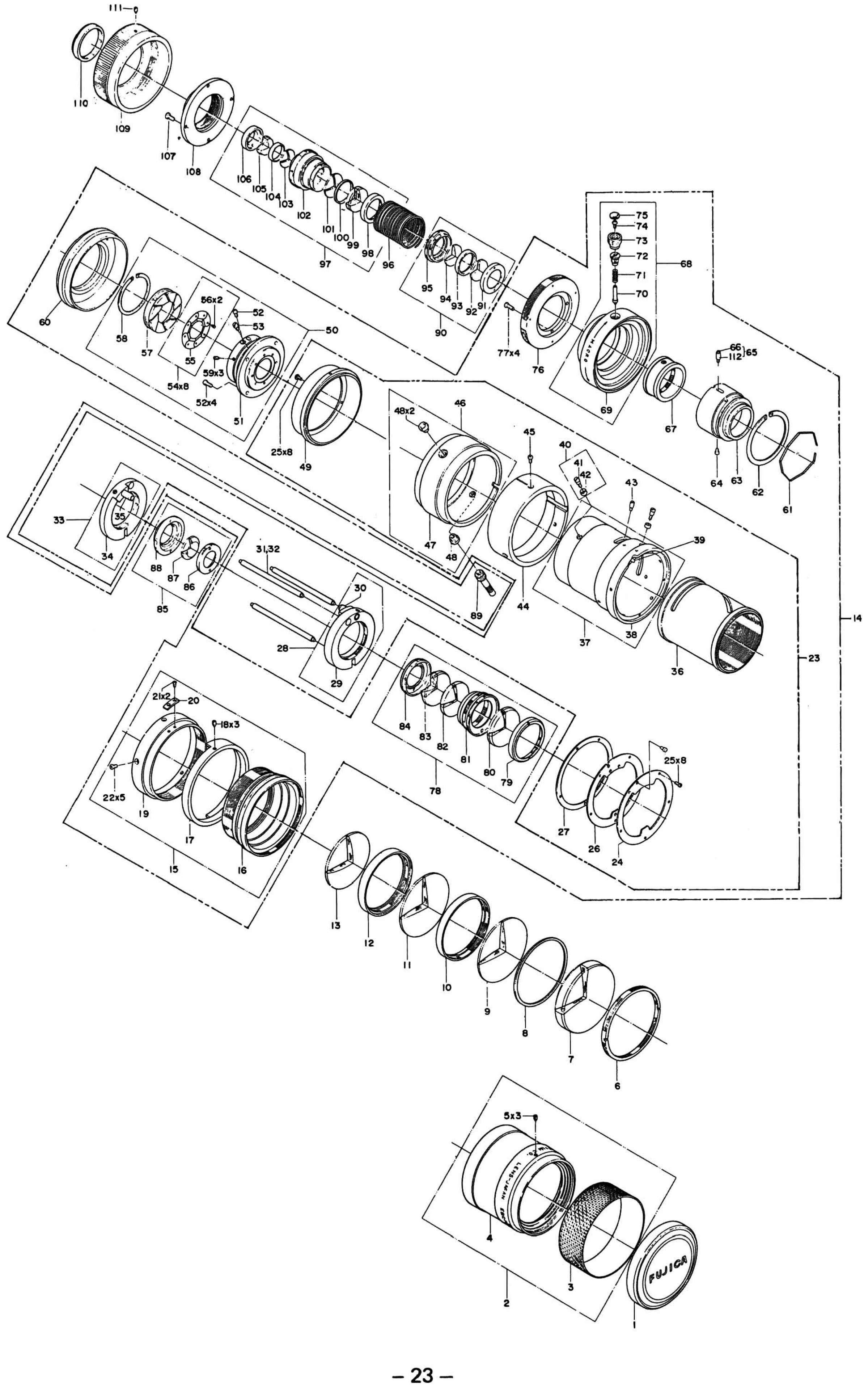


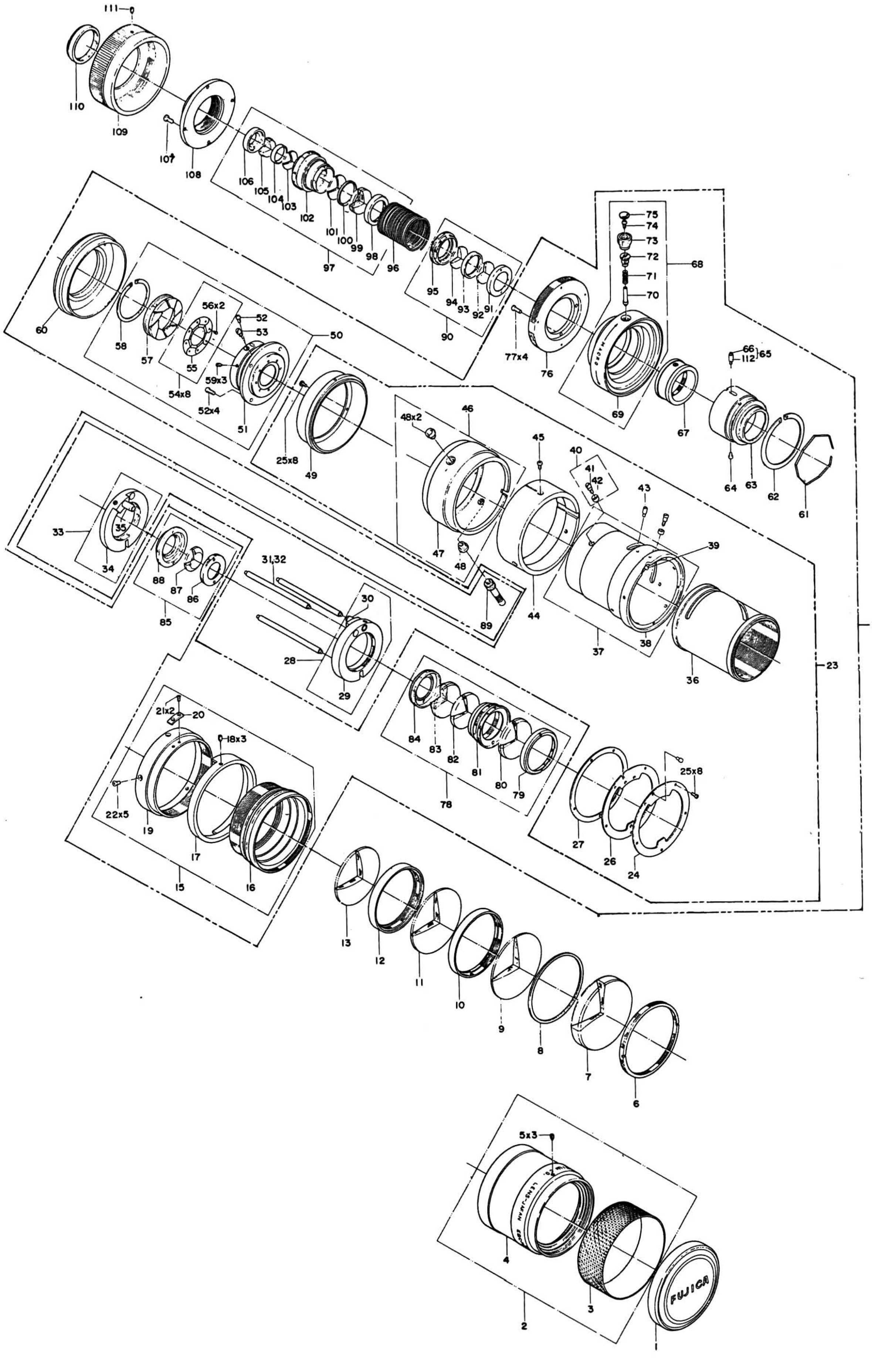
Ref No.	Part No.	Part Name	Assembled Ref No.	O'ty	Remarks
33	21A843840	Rear moving frame assembly		1	
36	21B322530	Cam barrel		1	
37	21A843820	Stationary barrel assembly	38, 39	1	
40	32A843850	Guide pin assembly	41, 42	2	
43	17B323010	Interlock pin		1	
44	23B323940	Index ring		1	
45	110M 200403S	Screw		3	
46	23A843860	Zooming ring assembly	47, $48^{\times 2}$	1	
47	23B323950	Zoom scale ring		1	
48	53B323090	Screw		2	
49	23B322670	Index ring		1	
50	21A843810	Aperture assembly	51, 53, $54^{\times 8}$, 57, 58	1	
51	21B323850	Aperture ring		1	
52	110M 200403S	Screw		7	
53	22B322630	Pin		1	
54	26A843800	Aperture blade assembly	$(55,\ 56^{\times 2})\times 8$	8	
57	22B322620	Aperture seat		1	
58	25B322910	C-clip		1	
59	120M 200351S	Screw		3	
60	23B323960	Aperture scale ring		1	
61	50B324080	Spring		1	

PARTS LIST
EBC FUJINON MA • Z 1.8/7.5 - 75 mm LENS ZC1000



Ref No.	Part No.	Part Name	Assembled Ref No.	Q'ty	Remarks
62	25B322900	C-clip		1	
63	21B323860	Lens barrel		1	
64	87B324090	Stopper pin		1	
65	17A843960	Guide pin assembly	66, 112	1	
67	21B323900	Moving ring		1	
68	21A843890	Macro focusing ring assembly	69, 70, 71, 72, 73, 74, 75	1	
69	21B323890	Cam barrel		1	
70	87B323120	Stopper		1	
71	50B323070	Spring		1	
72	42B324060	Guide		1	
73	16B324040	Knob		1	
74	110M 170453B	Screw		1	
75	58B323100	Cover plate		1	
76	21B323910	Stationary ring		1	
77	111M 200703S	Screw		4	
78	21A843910	Front lens assembly	79, 80, 81, 82, 83, 84	1	
85	21A843920	Rear lens assembly	86, 87, 88	1	
89	47B324070	Zoom lever		1	
90	21A843930	Stationary lens assembly	91, 92, 93, 94, 95	1	
96	50B323050	Spring		1	
97	21A843940	Master lens assembly	98, 99, 100, 101, 102, 103, 104, 105, 106	1	

PARTS LIST
EBC FUJINON MA • Z 1.8/7.5 - 75 mm LENS ZC1000



Ref No.	Part No.	Part Name	Assembled Ref No.	O'ty	Remarks
107	110M 260803N	Screw		4	
108	23B323970	C-mount ring		1	
109	23B323980	Cover ring		1	
110	57B320320	Rear lens cap		1	
111	120M 230351S	Screw		1	